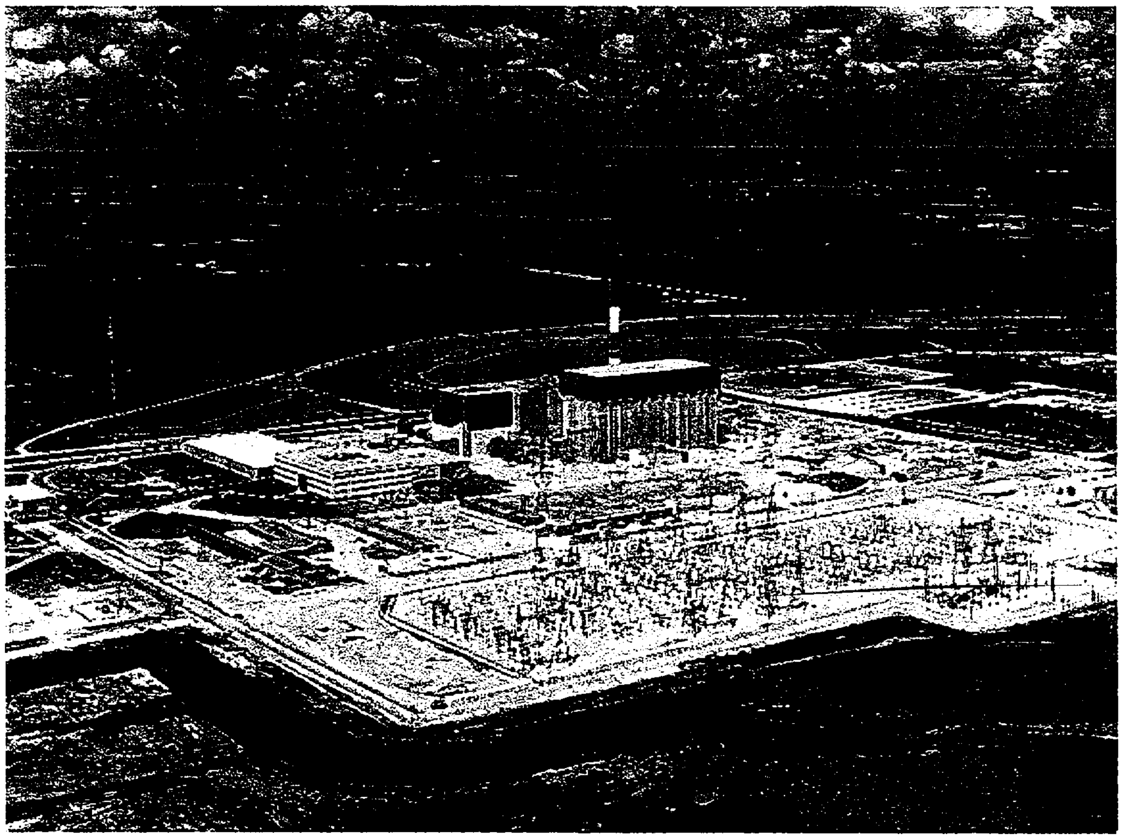
Improved Technical Specifications



LaSalle County Station

Volume 9:
Section 3.8

ComEd

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources — Operating

LCO 3.8.1 The following AC electrical power sources shall be OPERABLE:

a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electric Power Distribution System;

b. Three unit diesel generators (DGs); and

c. The opposite unit's Division 2 DG capable of supporting the associated equipment required to be OPERABLE by LCO 3.6.3.1, "Primary Containment Hydrogen Recombiners," LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Area Filtration (CRAF) System," and LCO 3.7.5, "Control Room Area Ventilation Air Conditioning (AC) System."

APPLICABILITY: MODES 1, 2, and 3.

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

1. Division 3 AC electrical power sources are not required to be OPERABLE when High Pressure Core Spray (HPCS) System is inoperable.

2. The opposite unit's Division 2 DG in LCO 3.8.1.c is not required to be OPERABLE when the associated required equipment is inoperable.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One required offsite circuit inoperable.	A.1	Perform SR 3.8.1.1 for OPERABLE required offsite circuit.	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u>		
	A.2	Declare required feature(s) with no offsite power available inoperable when the redundant required feature(s) are inoperable.	24 hours from discovery of no offsite power to one division concurrent with inoperability of redundant required feature(s)
	<u>AND</u>		
	A.3	Restore required offsite circuit to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet LCO 3.8.1.a or b

(continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. ---------NOTE-------- Not applicable when the opposite unit is in MODE 1, 2, or 3. -------------------- Division 1 DG inoperable for the purposes of completing preplanned maintenance, modifications, or Surveillance Requirements on the Division 1 DG or its associated support systems.	B.1	Verify the unit crosstie breakers between the unit and opposite unit Division 2 emergency buses are capable of being closed with a DG powering one of the buses.	Immediately
	<u>AND</u>		
	B.2	Perform SR 3.8.1.1 for OPERABLE required offsite circuit(s).	1 hour <u>AND</u> Once per 24 hours thereafter
	<u>AND</u>		
	B.3	Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable.	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	<u>AND</u>		
	B.4	Restore inoperable DG to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet LCO 3.8.1.a or b

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action B.1 and associated Completion Time not met. OR One required unit DG inoperable for reasons other than Condition B. OR Required opposite unit Division 2 DG inoperable. OR One required unit DG inoperable and the required opposite unit Division 2 DG inoperable.	C.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuit(s).	1 hour AND Once per 8 hours thereafter
	AND C.2 Declare required feature(s), supported by the inoperable DG(s), inoperable when the redundant required feature(s) are inoperable.	4 hours from discovery of Condition C concurrent with inoperability of redundant required feature(s)
	AND C.3.1 Determine OPERABLE DG(s) are not inoperable due to common cause failure.	24 hours
	OR C.3.2 Perform SR 3.8.1.2 for OPERABLE DG(s).	24 hours
	AND C.4 Restore required DG(s) to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet LCO 3.8.1.a or b

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two required offsite circuits inoperable.	D.1 Declare required feature(s) inoperable when the redundant required feature(s) are inoperable.	12 hours from discovery of Condition D concurrent with inoperability of redundant required feature(s)
	<u>AND</u>	
	D.2 Restore one required offsite circuit to OPERABLE status.	24 hours
E. One required offsite circuit inoperable. <u>AND</u> One required unit DG inoperable.	------------NOTE------------ Enter applicable Conditions and Required Actions of LCO 3.8.7, "Distribution Systems — Operating," when Condition E is entered with no AC power source to any required division. ----------------------------	
	E.1 Restore required offsite circuit to OPERABLE status.	12 hours
	<u>OR</u>	
	E.2 Restore required unit DG to OPERABLE status.	12 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
F. Two required unit DGs inoperable. OR Unit Division 2 DG and the required opposite unit Division 2 DG inoperable.	F.1	Restore one required DG to OPERABLE status.	2 hours OR 72 hours if unit Division 3 DG is inoperable
G. Required Action and associated Completion Time of Condition A, C, D, E, or F not met. OR Required Action and associated Completion Time of Required Action B.2, B.3, or B.4 not met.	G.1	Be in MODE 3.	12 hours
	AND		
	G.2	Be in MODE 4.	36 hours
H. Three or more required AC sources inoperable.	H.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

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

1. SR 3.8.1.1 through SR 3.8.1.20 are applicable only to the given unit's AC electrical power sources.

2. SR 3.8.1.21 is applicable to the required opposite unit's DG.

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each required offsite circuit.	7 days
SR 3.8.1.2	-------------------NOTES------------------- 1. All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. 2. A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. When modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.7 must be met. 3. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. -- Verify each required DG starts from standby conditions and achieves steady state voltage $\geq$ 4010 V and $\leq$ 4310 V and frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz.	 31 days

(continued)

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.1.3	-------------------NOTES------------------- 1. DG loadings may include gradual loading as recommended by the manufacturer. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by, and immediately follow, without shutdown, a successful performance of SR 3.8.1.2 or SR 3.8.1.7. 5. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. -- Verify each required DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 2400 kW and ≤ 2600 kW.	31 days
SR 3.8.1.4	Verify each required day tank contains ≥ 250 gal of fuel oil for Divisions 1 and 2 and ≥ 550 gal for Division 3.	31 days
SR 3.8.1.5	Check for and remove accumulated water from each required day tank.	31 days
SR 3.8.1.6	Verify each required fuel oil transfer system operates to automatically transfer fuel oil from storage tanks to the day tank.	92 days

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.7	-------------------NOTES------------------- 1. All DG starts may be preceded by an engine prelube period. 2. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. --- Verify each required DG starts from standby condition and achieves: a. in ≤ 13 seconds, voltage ≥ 4010 V and frequency ≥ 58.8 Hz; and b. steady state voltage ≥ 4010 V and ≤ 4310 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	184 days
SR 3.8.1.8	Verify manual transfer of unit power supply from the normal offsite circuit to the alternate offsite circuit.	24 months
SR 3.8.1.9	------------------NOTE-------------------- A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. --- Verify each required DG rejects a load greater than or equal to its associated single largest post-accident load and following load rejection, the frequency is ≤ 66.7 Hz.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.10	-----------------NOTE--------------------- A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. -- Verify each required DG does not trip and voltage is maintained ≤ 5000 V during and following a load rejection of a load ≥ 2600 kW.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.11	------------------NOTE------------------ All DG starts may be preceded by an engine prelube period. -- Verify on an actual or simulated loss of offsite power signal: a. De-energization of emergency buses; b. Load shedding from emergency buses for Divisions 1 and 2 only; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ 13 seconds, 2. energizes auto-connected shutdown loads, 3. maintains steady state voltage ≥ 4010 V and ≤ 4310 V, 4. maintains steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies permanently connected and auto-connected shutdown loads for ≥ 5 minutes.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.1.12	------------------NOTE------------------ All DG starts may be preceded by an engine prelube period. -- Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each required DG auto-starts from standby condition and: a. In $\leq$ 13 seconds after auto-start, achieves voltage $\geq$ 4010 V and frequency $\geq$ 58.8 Hz; b. Achieves steady state voltage $\geq$ 4010 V and $\leq$ 4310 V and frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz; and c. Operates for $\geq$ 5 minutes.	24 months
SR 3.8.1.13	Verify each required DG's automatic trips are bypassed on an actual or simulated ECCS initiation signal except: a. Engine overspeed; and b. Generator differential current.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.14	-------------------NOTES------------------ 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. If grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 3. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. --	
	Verify each required DG operating within the power factor limit operates for $\geq$ 24 hours: a. For $\geq$ 2 hours loaded $\geq$ 2860 kW; and b. For the remaining hours of the test loaded $\geq$ 2400 kW and $\leq$ 2600 kW.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.15	-------------------NOTES------------------- 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated $\geq$ 2 hours loaded $\geq$ 2400 kW and $\leq$ 2600 kW. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. --- Verify each required DG starts and achieves: a. in $\leq$ 13 seconds, voltage $\geq$ 4010 V and frequency $\geq$ 58.8 Hz; and b. steady state voltage $\geq$ 4010 V and $\leq$ 4310 V and frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz.	24 months
SR 3.8.1.16	Verify each required DG: a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; b. Transfers loads to offsite power source; and c. Returns to ready-to-load operation.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.17	Verify, with a required DG operating in test mode and connected to its bus: a. For Division 1 and 2 DGs, an actual or simulated ECCS initiation signal overrides the test mode by returning DG to ready-to-load operation; and b. For Division 3 DG, an actual or simulated DG overcurrent trip signal automatically disconnects the offsite power source while the DG continues to supply normal loads.	24 months
SR 3.8.1.18	Verify interval between each sequenced load block, for Division 1 and 2 DGs only, is within ± 10% of design interval for each time delay relay.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.19	-------------------NOTE------------------- All DG starts may be preceded by an engine prelube period. -- Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal: a. De-energization of emergency buses; b. Load shedding from emergency buses for Divisions 1 and 2 only; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in $\leq$ 13 seconds, 2. energizes auto-connected emergency loads, 3. maintains steady state voltage $\geq$ 3744 V and $\leq$ 4576 V, 4. maintains steady state frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz, and 5. supplies permanently connected and auto-connected emergency loads for $\geq$ 5 minutes.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.1.20	------------------NOTE------------------ All DG starts may be preceded by an engine prelube period. -- Verify, when started simultaneously from standby condition, each required DG achieves, in $\leq$ 13 seconds, voltage $\geq$ 3744 V and frequency $\geq$ 58.8 Hz.	10 years
SR 3.8.1.21	------------------NOTE------------------ When the opposite unit is in MODE 4 or 5, or moving irradiated fuel assemblies in secondary containment, the following opposite unit SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, SR 3.8.1.14 through SR 3.8.1.16. -- For required opposite unit DG, the SRs of the opposite unit's Specification 3.8.1, except SR 3.8.1.12, SR 3.8.1.13, SR 3.8.1.17, SR 3.8.1.18, SR 3.8.1.19, and SR 3.8.1.20, are applicable.	In accordance with applicable SRs

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources – Shutdown

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

a. One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8, "Distribution Systems – Shutdown"; and

b. One diesel generator (DG) capable of supplying one division of the Division 1 or 2 onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8;

c. The Division 3 DG capable of supplying the Division 3 onsite Class 1E AC electrical power distribution subsystem, when the Division 3 onsite Class 1E electrical power distribution subsystem is required by LCO 3.8.8; and

d. One qualified circuit, which may be the same circuit in LCO 3.8.2.a, between the offsite transmission network and the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem, or the opposite unit DG capable of supplying the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem, when the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem is required by LCO 3.8.8.

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

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO Item a. not met.	------------NOTE------------ Enter applicable Condition and Required Actions of LCO 3.8.8, when any required division is de-energized as a result of Condition A. ----------------------------	
	A.1 Declare affected required feature(s) with no offsite power available inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	A.2.2 Suspend movement of irradiated fuel assemblies in the secondary containment.	Immediately
	<u>AND</u>	
		(continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. (continued)	A.2.3	Initiate action to suspend operations with a potential for draining the reactor vessel (OPDRVs).	Immediately
	<u>AND</u>		
	A.2.4	Initiate action to restore required offsite power circuit to OPERABLE status.	Immediately
B. LCO Item b. not met.	B.1	Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>		
	B.2	Suspend movement of irradiated fuel assemblies in secondary containment.	Immediately
	<u>AND</u>		
	B.3	Initiate action to suspend OPDRVs.	Immediately
	<u>AND</u>		
	B.4	Initiate action to restore required DG to OPERABLE status.	Immediately
C. LCO Item c. not met.	C.1	Declare High Pressure Core Spray System inoperable.	72 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. LCO Item d. not met.	D.1 Declare associated standby gas treatment subsystem, control room area filtration subsystem, and control room area ventilation air conditioning subsystem inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.2.1	-------------------NOTES------------------- 1. The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, SR 3.8.1.13 through SR 3.8.1.16, SR 3.8.1.18, and SR 3.8.1.19. 2. SR 3.8.1.12 and SR 3.8.1.19 are not required to be met when associated ECCS subsystem(s) are not required to be OPERABLE per LCO 3.5.2, "ECCS — Shutdown." --- For AC sources required to be OPERABLE, the SRs of Specification 3.8.1, except SR 3.8.1.8, SR 3.8.1.17, and SR 3.8.1.20, are applicable.	In accordance with applicable SRs

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil and Starting Air

LCO 3.8.3 The stored diesel fuel oil and starting air subsystem shall be within limits for each required diesel generator (DG).

APPLICABILITY: When associated DG is required to be OPERABLE.

ACTIONS

------------------------------------NOTE------------------------------------
Separate Condition entry is allowed for each DG.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more DGs with stored fuel oil level: 1. In the fuel oil storage tank for the Division 1 and Division 2 DGs, and the opposite unit Division 2 DG, < 31,000 gal and ≥ 26,550 gal; and 2. In the combined day tank and fuel storage tank for the Division 3 DG, < 29,750 gal and ≥ 25,550 gal.	A.1 Restore stored fuel oil level to within limit.	48 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more DGs with stored fuel oil total particulates not within limit.	B.1 Restore stored fuel oil total particulates to within limit.	7 days
C. One or more DGs with new fuel oil properties not within limits.	C.1 Restore stored fuel oil properties to within limits.	30 days
D. One or more DGs with required starting air receiver pressure < 200 psig and ≥ 165 psig.	D.1 Restore required starting air receiver pressure to ≥ 200 psig.	48 hours
E. Required Action and associated Completion Time of Condition A, B, C, or D not met. OR One or more DGs with stored diesel fuel oil or starting air subsystem not within limits for reasons other than Condition A, B, C, or D.	E.1 Declare associated DG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify: a. ≥ 31,000 gal of fuel for the Division 1 and Division 2 DGs and the opposite unit Division 2 DG. b. ≥ 29,750 gal of fuel in the combined fuel oil storage tank and day tank for the Division 3 DG.	31 days
SR 3.8.3.2	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
SR 3.8.3.3	Verify each required DG air start receiver pressure is ≥ 200 psig.	31 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources — Operating

LCO 3.8.4 The Division 1, Division 2, Division 3, and the opposite unit Division 2 DC electrical power subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Division 1 or 2 125 V DC electrical power subsystem inoperable.	A.1 Restore Division 1 and 2 125 V DC electrical power subsystems to OPERABLE status.	2 hours
B. Division 3 DC electrical power subsystem inoperable.	B.1 Declare High Pressure Core Spray System inoperable.	Immediately
C. Division 1 250 V DC electrical power subsystem inoperable.	C.1 Declare associated supported features inoperable.	Immediately
D. Opposite unit Division 2 DC electrical power subsystem inoperable.	D.1 Restore opposite unit Division 2 DC electrical power subsystem to OPERABLE status.	7 days

(continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
E. Required Action and associated Completion Time not met.	E.1	Be in MODE 3.	12 hours
	AND		
	E.2	Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

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

3. SR 3.8.4.1 through SR 3.8.4.8 are applicable only to the given unit's DC electrical power sources.

4. SR 3.8.4.9 is applicable only to the opposite unit DC electrical power source.

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage on float charge is: a. ≥ 128 V for the 125 V batteries, and b. ≥ 256 V for the 250 V battery.	7 days
SR 3.8.4.2	Verify no visible corrosion at battery terminals and connectors. OR Verify battery connection resistance is ≤ 1.5E-4 ohm for inter-cell connections, and ≤ 1.5E-4 ohm for terminal connections.	92 days
SR 3.8.4.3	Verify battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance.	24 months
SR 3.8.4.4	Remove visible corrosion and verify battery cell to cell and terminal connections are coated with anti-corrosion material.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.5	Verify battery connection resistance is ≤ 1.5E-4 ohm for inter-cell connections, and ≤ 1.5E-4 ohm for terminal connections.	24 months
SR 3.8.4.6	Verify each required battery charger supplies: a. ≥ 200 amps at ≥ 130 V for ≥ 4 hours for the Division 1 and 2 125 V battery chargers; b. ≥ 50 amps at ≥ 130 V for ≥ 4 hours for the Division 3 125 V battery charger; and c. ≥ 200 amps at ≥ 260 V for ≥ 4 hours for the 250 V battery charger.	24 months
SR 3.8.4.7	------------------NOTE------------------ 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 provided the modified performance discharge test completely envelops the service test. -- 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.	 24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.4.8	Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	60 months AND 12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating
SR 3.8.4.9	-----NOTE----- When the opposite unit is in MODE 4 or 5, or moving irradiated fuel in the secondary containment, the following opposite unit SRs are not required to be performed: SR 3.8.4.6, SR 3.8.4.7, and SR 3.8.4.8. ---------- For the opposite unit Division 2 DC electrical power subsystem, the SRs of the opposite unit Specification 3.8.4 are applicable.	In accordance with applicable SRs

3.8 ELECTRICAL POWER SYSTEMS

3.8.5 DC Sources — Shutdown

LCO 3.8.5 DC electrical power subsystem(s) shall be OPERABLE to support the electrical power distribution subsystem(s) required by LCO 3.8.8, "Distribution Systems — Shutdown."

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

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ---------NOTE--------- Not applicable when the opposite unit is in MODE 1, 2, or 3. --------------------- One or more required unit Division 1, 2, and 3 DC electrical power subsystems inoperable.	A.1 Verify associated DC electrical power distribution subsystem is energized by OPERABLE opposite unit DC electrical power subsystem.	1 hour
	<u>AND</u>	
	A.2 Restore required unit Division 1, 2, and 3 DC electrical power subsystem to OPERABLE status.	72 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met. OR Required opposite unit Division 2 DC electrical power subsystem inoperable. OR ---------NOTE--------- Only applicable when the opposite unit is in MODE 1, 2, or 3. --------------------- One or more required unit Division 1, 2, and 3 DC electrical power subsystems inoperable.	B.1 Declare affected required feature(s) inoperable.	Immediately
	OR	
	B.2.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	B.2.2 Suspend movement of irradiated fuel assemblies in the secondary containment.	Immediately
	AND	
	B.2.3 Initiate action to suspend operations with a potential for draining the reactor vessel.	Immediately
	AND	
	B.2.4 Initiate action to restore required DC electrical power subsystems to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.5.1	-------------------NOTE------------------ The following SRs are not required to be performed: SR 3.8.4.6, SR 3.8.4.7, and SR 3.8.4.8. --- For DC electrical power subsystems required to be OPERABLE the following SRs are applicable: SR 3.8.4.1, SR 3.8.4.2, SR 3.8.4.3, SR 3.8.4.4, SR 3.8.4.5, SR 3.8.4.6, SR 3.8.4.7, SR 3.8.4.8, and SR 3.8.4.9	In accordance with applicable SRs

3.8 ELECTRICAL POWER SYSTEMS

3.8.6 Battery Cell Parameters

LCO 3.8.6 Battery cell parameters for the Division 1, 2, and 3 batteries shall be within limits.

APPLICABILITY: When associated DC electrical power subsystems are required to be OPERABLE.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each battery.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more batteries with one or more battery cell parameters not within Table 3.8.6-1 Category A or B limits.	A.1 Verify pilot cells electrolyte level and float voltage meet Table 3.8.6-1 Category C limits.	1 hour
	AND	
	A.2 Verify battery cell parameters meet Table 3.8.6-1 Category C limits.	24 hours AND Once per 7 days thereafter
	AND	
	A.3 Restore battery cell parameters to Table 3.8.6-1 Category A and B limits.	31 days

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> One or more batteries with average electrolyte temperature of the representative cells $< 60°F$ for 125 V batteries, or $< 65°F$ for 250 V battery. <u>OR</u> One or more batteries with one or more battery cell parameters not within Table 3.8.6-1 Category C limits.	B.1 Declare associated battery inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.6.1	Verify battery cell parameters meet Table 3.8.6-1 Category A limits.	7 days
SR 3.8.6.2	Verify battery cell parameters meet Table 3.8.6-1 Category B limits.	92 days <u>AND</u> Once within 7 days after battery discharge < 110 V for 125 V batteries and < 220 V for the 250 V battery <u>AND</u> Once within 7 days after battery overcharge > 150 V for 125 V batteries and > 300 V for the 250 V battery
SR 3.8.6.3	Verify average electrolyte temperature of representative cells is $\geq$ 60°F for 125 V batteries, and $\geq$ 65°F for the 250 V battery.	92 days

Table 3.8.6-1 (page 1 of 1)
Battery Cell Parameter Requirements

PARAMETER	CATEGORY A: LIMITS FOR EACH DESIGNATED PILOT CELL	CATEGORY B: LIMITS FOR EACH CONNECTED CELL	CATEGORY C: LIMITS FOR EACH CONNECTED CELL
Electrolyte Level	> Minimum level indication mark, and ≤ ¼ inch above maximum level indication mark[(a)]	> Minimum level indication mark, and ≤ ¼ inch above maximum level indication mark[(a)]	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 V	≥ 2.13 V	> 2.07 V
Specific Gravity[(b)(c)]	≥ 1.200	≥ 1.195 <u>AND</u> Average of all connected cells > 1.205	Not more than 0.020 below average of all connected cells <u>AND</u> Average of all connected cells ≥ 1.195

(a) It is acceptable for the electrolyte level to temporarily increase above the specified maximum level during and following equalizing charges provided it is not overflowing.

(b) Corrected for electrolyte temperature and level.

(c) A battery charging current of < 2 amps when on float charge is acceptable for meeting specific gravity limits following a battery recharge, for a maximum of 7 days. When charging current is used to satisfy specific gravity requirements, specific gravity of each connected cell shall be measured prior to expiration of the 7 day allowance.

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Distribution Systems — Operating

LCO 3.8.7 The following electrical power distribution subsystems shall be OPERABLE:

a. Division 1 and Division 2 AC and 125 V DC distribution subsystems;

b. Division 3 AC and 125 V DC distribution subsystems;

c. Division 1 250 V DC distribution subsystem; and

d. The portions of the opposite unit's Division 2 AC and 125 V DC electrical power distribution subsystems capable of supporting the equipment required to be OPERABLE by LCO 3.6.3.1, "Primary Containment Hydrogen Recombiners," LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Area Filtration (CRAF) System," LCO 3.7.5, "Control Room Area Ventilation Air Conditioning (AC) System," and LCO 3.8.1, "AC Sources — Operating."

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or both Division 1 and 2 AC electrical power distribution subsystems inoperable.	A.1 Restore Division 1 and 2 AC electrical power distribution subsystems to OPERABLE status.	8 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7.a

(continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. One or both Division 1 and 2 125 V DC electrical power distribution subsystems inoperable.	B.1	Restore Division 1 and 2 125 V DC electrical power distribution subsystem(s) to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7.a
C. One or more required opposite unit Division 2 AC or DC electrical power distribution subsystems inoperable.	C.1	Restore required opposite unit Division 2 AC and DC electrical power distribution subsystem(s).	7 days
D. Required Action and associated Completion Time of Condition A, B, or C not met.	D.1	Be in MODE 3.	12 hours
	<u>AND</u>		
	D.2	Be in MODE 4.	36 hours
E. One or both Division 3 AC or DC electrical power distribution subsystems inoperable.	E.1	Declare associated supported features inoperable.	Immediately
F. Division 1 250 V DC electrical power subsystem inoperable.	F.1	Declare associated supported features inoperable.	Immediately

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. Two or more electrical power distribution subsystems inoperable that result in a loss of function.	G.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct breaker alignments and voltage to required AC and DC electrical power distribution subsystems.	7 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 Distribution Systems — Shutdown

LCO 3.8.8 The necessary portions of the Division 1, Division 2, and Division 3 AC and DC, and the opposite unit Division 2 AC and DC electrical power distribution subsystems shall be OPERABLE to support equipment required to be OPERABLE.

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

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required AC or DC electrical power distribution subsystems inoperable.	A.1 Declare associated supported required feature(s) inoperable.	Immediately
	<u>OR</u>	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	A.2.2 Suspend movement of irradiated fuel assemblies in the secondary containment.	Immediately
	<u>AND</u>	
		(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.3 Initiate action to suspend operations with a potential for draining the reactor vessel.	Immediately
	<u>AND</u>	
	A.2.4 Initiate actions to restore required AC and DC electrical power distribution subsystems to OPERABLE status.	Immediately
	<u>AND</u>	
	A.2.5 Declare associated required shutdown cooling subsystem(s) inoperable and not in operation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.8.1 Verify correct breaker alignments and voltage to required AC and DC electrical power distribution subsystems.	7 days

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.1 AC Sources — Operating

BASES

BACKGROUND

The unit Class 1E AC Electrical Power Distribution System AC sources consist of the offsite power sources and the onsite standby power sources (diesel generators (DGs)). As required by 10 CFR 50, Appendix A, GDC 17 (Ref. 1), the design of the AC electrical power system provides independence and redundancy to ensure an available source of power to the Engineered Safety Feature (ESF) systems.

The Class 1E AC distribution system supplies electrical power to three divisional load groups, Divisions 1, 2, and 3, with each division powered by an independent Class 1E 4.16 kV emergency bus (refer to LCO 3.8.7, "Distribution Systems — Operating"). The Division 2 emergency bus associated with each unit is shared by each unit since some systems are common to both units. The opposite unit Division 2 emergency bus supports equipment required to be OPERABLE by LCO 3.6.3.1, "Primary Containment Hydrogen Recombiners," LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Area Filtration (CRAF) System," and LCO 3.7.5, "Control Room Area Ventilation Air Conditioning (AC) System." Division 1 and 2 emergency buses have access to two offsite power supplies (one normal and one alternate). The alternate offsite power source is normally supplied via the opposite unit system auxiliary transformer (SAT) and the opposite unit circuit path. The alternate offsite circuit path includes the associated opposite unit's 4.16 kV emergency bus, unit tie breakers, and associated interconnecting bus to the given unit's 4.16 kV emergency bus. Division 3 load group has access to one offsite power supply (respective unit's SAT). Division 2 and 3 emergency buses on each unit have a dedicated onsite DG. The Division 1 emergency bus of both units share a common DG. The ESF systems of any two of the three divisions provide for the minimum safety functions necessary to shut down the unit and maintain it in a safe shutdown condition.

Offsite power is supplied to the switchyard from the transmission network. From the switchyard two electrically

(continued)

BASES

BACKGROUND (continued)

and physically separated circuits provide AC power to the unit onsite Class 1E 4.16 kV emergency buses. The unit SAT provides the normal source of offsite power to the respective unit's Division 1, 2, and 3 4.16 kV emergency buses. In the event of a loss of unit SAT, the Division 1 and 2 emergency buses fast transfer to the UAT (which is connected to the main generator output). The UAT is rated to carry all onsite power to the unit, but is not considered an offsite source unless it is being backfed with the main generator disconnect links removed. The Division 3 emergency bus has no second offsite power source, and will automatically be supplied by the Division 3 DG after the bus is deenergized. The Division 1 and 2 emergency buses can be manually transferred to the alternate offsite power source through the unit ties on a dead bus transfer or on a live bus transfer if the DG is supplying power to the bus. The offsite AC electrical power sources are designed and located so as to minimize to the extent practical the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. A detailed description of the offsite power network and circuits to the onsite Class 1E 4.16 kV emergency buses is found in UFSAR, Chapter 8 (Ref. 2).

A qualified offsite circuit consists of all breakers, transformers, switches, interrupting devices, cabling, and controls required to transmit power from the offsite transmission network to the onsite Class 1E emergency buses.

Onsite standby power is provided by a total of five DGs for both units. The onsite standby power source for each Division 2 and 3 4.16 kV emergency bus on each unit is a dedicated DG. (DGs 1A and 1B for Unit 1 and DGs 2A and 2B for Unit 2). The onsite standby power source for the Division 1 emergency bus on each unit is a common DG (DG 0). Each DG will start on emergency bus degraded voltage or undervoltage from its associated 4.16 kV emergency bus (refer to LCO 3.3.8.1, "Loss of Power (LOP) Instrumentation"). The Division 2 and 3 DGs will start on an Emergency Core Cooling System (ECCS) actuation signal (reactor vessel low water level or high drywell pressure) from the respective unit. The Division 1 DG (common DG) will start on an ECCS actuation signal (reactor vessel low

(continued)

BASES

BACKGROUND (continued)

water level or high drywell pressure) from either unit. Although the DGs start on an ECCS actuation signal from the respective unit, the DGs are not connected to the 4.16 kV emergency bus unless an undervoltage condition occurs on the bus.

In the event of a loss of offsite power, the ESF electrical loads are automatically connected to the DGs, as required, in sufficient time to provide for safe reactor shutdown and to mitigate the consequences of a Design Basis Accident (DBA) such as a loss of coolant accident (LOCA).

If an undervoltage condition occurs on a Division 1 or 2 emergency bus, the associated DG starts, bus loads are shed, the DG will automatically connect to the emergency bus, and loads necessary for safe shutdown of the unit are connected automatically or manually. If an ECCS actuation signal is present concurrent with an undervoltage condition on the Division 1 or 2 emergency bus, the associated DG starts, bus loads are shed as required, the DG will automatically connect to the emergency bus, and the required ESF loads are automatically connected. Sequencing of Division 1 and 2 emergency loads is accomplished by time delay relays so that overloading of the DG is prevented. The Division 3 emergency bus has no shedding or sequencing.

The DGs satisfy the following Regulatory Guide 1.9 (Ref. 3) ratings:

a. 2600 kW - continuous;

b. 2860 kW - 2000 hour;

c. 2987 kW - 7 day;

d. 2860 kW - 2 hours in any 24 hour period (10% overload); and

e. 3040 kW - 30 minute.

APPLICABLE SAFETY ANALYSES

The initial conditions of DBA and transient analyses in the UFSAR, Chapter 6 (Ref. 4) and Chapter 15 (Ref. 5), assume ESF systems are OPERABLE. The AC electrical power sources

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to ESF systems so that the fuel, Reactor Coolant System (RCS), and containment design limits are not exceeded. These limits are discussed in more detail in the Bases for Section 3.2, Power Distribution Limits; Section 3.5, Emergency Core Cooling System (ECCS) and Reactor Core Isolation Cooling (RCIC) System; and Section 3.6, Containment Systems.

The OPERABILITY of the AC electrical power sources is consistent with the initial assumptions of the accident analyses and is based upon meeting the design basis of the unit. This includes maintaining the onsite or offsite AC sources OPERABLE during accident conditions in the event of:

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

b. A worst case single failure.

AC sources satisfy the requirements of Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Two qualified circuits (normal and alternate) between the offsite transmission network and the onsite Class 1E Distribution System (i.e., the unit Division 1, 2, and 3 4.16 kV emergency buses and the opposite unit Division 2 4.16 kV emergency bus), three separate and independent unit DGs, and the opposite unit's DG capable of supporting the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem to power the equipment required to be OPERABLE by LCO 3.6.3.1, LCO 3.6.4.3, LCO 3.7.4, and LCO 3.7.5 ensure availability of the required power to shut down the reactor and maintain it in a safe shutdown condition after an anticipated operational occurrence (AOO) or a postulated DBA.

Qualified offsite circuits are those that are described in the UFSAR and are part of the licensing basis for the unit.

Each offsite circuit must be capable of maintaining rated frequency and voltage, and accepting required loads during an accident, while connected to the emergency buses. For

(continued)

BASES

LCO (continued)

the normal offsite circuit, the OPERABLE qualified offsite circuit consists of the required incoming breaker(s) and disconnects from the 345 kV switchyard to and including the SAT, the respective circuit path to and including the feeder breakers to the required Division 1, 2, and 3 4.16 kV emergency buses.

For the alternate offsite circuit, the OPERABLE qualified offsite circuit consists of the required incoming breaker(s) and disconnects from the 345 kV switchyard to and including the SAT or UAT (backfeed mode), to and including the opposite unit 4.16 kV emergency bus, the opposite unit circuit path to and including the unit tie breakers (breakers 1414, 1424, 2414, 2424), and the respective circuit path to the required Division 1 and 2 4.16 kV emergency buses.

Each DG must be capable of starting, accelerating to rated speed and voltage, and connecting to its respective ESF bus on detection of bus undervoltage. This sequence must be accomplished within 13 seconds. Each DG must also be capable of accepting required loads within the assumed loading sequence intervals, and must continue to operate until offsite power can be restored to the 4.16 kV emergency buses. These capabilities are required to be met from a variety of initial conditions such as DG in standby with engine hot and DG in standby with engine at ambient conditions. Additional DG capabilities must be demonstrated to meet required Surveillances, e.g., capability of the Division 1 and 2 DGs to revert to standby status on an ECCS signal while operating in parallel test mode. Proper sequencing of loads, including tripping of nonessential loads, is a required function for DG OPERABILITY.

The opposite unit's DG must be capable of starting, accelerating to rated speed and voltage, and connecting to the opposite unit's Division 2 Class 1E AC electrical power distribution subsystem on detection of bus undervoltage. This sequence must be accomplished within 13 seconds and is required to be met from the same variety of initial conditions specified for the unit DGs.

The AC sources in one division must be separate and independent (to the extent possible) of the AC sources in the other division(s). For the DGs, the separation and

(continued)

BASES

LCO (continued)

independence are complete. For the offsite AC sources, the separation and independence are to the extent practical. A qualified circuit may be connected to all divisions of either unit, with manual transfer capability to the other circuit OPERABLE, and not violate separation criteria. A qualified circuit that is not connected to the 4.16 kV emergency buses is required to have OPERABLE manual transfer capability (from the control room) to the associated 4.16 kV emergency buses to support OPERABILITY of that qualified circuit.

APPLICABILITY

The AC sources are required to be OPERABLE in MODES 1, 2, and 3 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 OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

Note 1 has been added taking exception to the Applicability requirements for Division 3 sources, provided the High Pressure Core Spray (HPCS) System is declared inoperable. This exception is intended to allow declaring of the Division 3 inoperable either in lieu of declaring the Division 3 source inoperable., or at any time subsequent to entering ACTIONS for an inoperable Division 3 source. This exception is acceptable since, with the Division 3 inoperable and the associated ACTIONS entered, the Division 3 AC sources provide no additional assurance of meeting the above criteria.

Note 2 has been added taking exception to the Applicability requirements for the required opposite unit's Division 2 DG in LCO 3.8.1.c, provided the associated required equipment is inoperable (i.e., one SGT subsystem, one primary containment hydrogen recombiner subsystem, one control room area filtration subsystem, and one control room area ventilation air conditioning subsystem). This exception is intended to allow declaring the opposite unit's Division 2 supported equipment inoperable either in lieu of declaring

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BASES

APPLICABILITY (continued)

the opposite unit's Division 2 DG inoperable, or at any time subsequent to entering ACTIONS for an inoperable opposite unit Division 2 DG. This exception is acceptable since, with the opposite unit powered Division 2 equipment inoperable and the associated ACTIONS entered, the opposite unit Division 2 DG provides no additional assurance of meeting the above criteria.

AC power requirements for MODES 4 and 5 and other conditions in which AC sources are required are covered in LCO 3.8.2, "AC Sources — Shutdown."

ACTIONS

A.1

To ensure a highly reliable power source remains, it is necessary to verify the availability of the remaining required offsite circuits on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in the Required Action not met. However, if a second required circuit fails SR 3.8.1.1, the second offsite circuit is inoperable, and Condition D, for two required offsite circuits inoperable, is entered.

A.2

Required Action A.2, which only applies if the division cannot be powered from an offsite source, is intended to provide assurance that an event with a coincident single failure of the associated DG does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related divisions (i.e., single division systems are not included, although, for this Required Action, Division 3 (HPCS System) is considered redundant to Division 1 and 2 ECCS). Redundant required features failures consist of inoperable features associated with a division redundant to the division that has no offsite power available.

The Completion Time for Required Action A.2 is intended to allow time for the operator to evaluate and repair any discovered inoperabilities. This Completion Time also

(continued)

BASES

ACTIONS

A.2 (continued)

allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

a. The division has no offsite power available to supply its loads; and

b. A redundant required feature on another division is inoperable.

If, at any time during the existence of this Condition (one required offsite circuit inoperable), a redundant required feature subsequently becomes inoperable, this Completion Time begins to be tracked.

Discovering no offsite power available to one division of the onsite Class 1E Power Distribution System coincident with one or more inoperable redundant required support or supported features, or both, that are associated with the other division that has offsite power, results in starting the Completion Time for the Required Action. Twenty-four hours is acceptable because it minimizes risk while allowing time for restoration before the unit is subjected to transients associated with shutdown.

The remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to the onsite Class 1E Distribution System. Thus, on a component basis, single failure protection may have been lost for the required feature's function; however, function is not lost. The 24 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 24 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

A.3

With one required offsite circuit inoperable, the reliability of the offsite system is degraded, and the potential for a loss of offsite power is increased, with

(continued)

BASES

ACTIONS

A.3 (continued)

attendant potential for a challenge to the plant safety systems. In this condition, however, the remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to the onsite Class 1E distribution system.

The 7 day Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action A.3 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, the common DG is inoperable for pre-planned maintenance and that DG is subsequently returned OPERABLE, the LCO may already have been not met for up to 7 days. This situation could lead to a total of 14 days, since initial failure to meet the LCO, to restore the offsite circuit. At this time, a unit DG could again become inoperable, the circuit restored OPERABLE, and an additional 72 hours (for a total of 17 days) allowed prior to complete restoration of the LCO. The 10 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet LCO 3.8.1.a or b. This limit is considered reasonable for situations in which Conditions are entered concurrently for combinations of Conditions A, B, and C. The "AND" connector between the 72 hour and 10 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive must be met.

Similar to Required Action A.2, the Completion Time of Required Action A.3 allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This exception results in establishing the "time zero" at the time LCO 3.8.1.a or b was initially not met, instead of at the time that Condition A was entered.

(continued)

BASES

ACTIONS (continued)

B.1

Condition B provides appropriate compensatory measures to allow performance of pre-planned maintenance or testing on the common DG. Pre-planned maintenance or testing includes preventative maintenance, modifications, and performance of Surveillance Requirements. The Note effectively only allows Condition B to be used for the common DG when the opposite unit is not in MODE 1, 2, or 3. When the common DG becomes inoperable while both units are in MODE 1, 2, or 3, Condition C must be entered for both units and the associated Required Actions performed.

Required Action B.1, is intended to provide assurance that a loss of offsite power, during the period that the common DG or its supported equipment is inoperable for the purposes of completing pre-planned maintenance, modifications, or Surveillance Requirements, does not result in a complete loss of safety function of critical systems. This is accomplished by making an additional source available to support the unit and opposite unit Division 2 emergency buses. This additional source is the unit or opposite unit Division 2 DG. To ensure this alternate highly reliable power source is available during operation in Condition B, it is necessary to temporarily modify the control circuit for the unit crosstie circuit breakers between 4.16 kV emergency buses 142Y and 242Y to allow the breakers to be closed with a DG powering one of the Division 2 emergency buses (142Y or 242Y) so that the unit or opposite unit Division 2 DG can supply the unit and opposite unit Division 2 emergency buses. Therefore, the unit or opposite unit Division 2 DG must be OPERABLE with the capability to be manually aligned to the unit and opposite unit Division 2 emergency buses. The Completion Time ensures the alternate source to the Division 2 emergency buses is available whenever the plant is operating in Condition B. If Required Action B.1 and the associated Completion Time are not met, Condition C must the entered and the Required Actions taken.

B.2

To ensure a highly reliable power source remains, it is necessary to verify the availability of the remaining required offsite circuits on a more frequent basis. Since

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BASES

ACTIONS

B.2 (continued)

the Required Action only specifies "perform," a failure to meet SR 3.8.1.1 acceptance criteria does not result in a Required Action being not met. However, if a circuit fails to pass SR 3.8.1.1, it is inoperable. Upon offsite circuit inoperability, additional Conditions must then be entered.

B.3

Required Action B.3 is intended to provide assurance that a loss of offsite power, during the period that the common DG is inoperable for the purposes of completing pre-planned maintenance, modifications, or Surveillance Requirements on the common DG or its support systems, does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related divisions (i.e., single division systems are not included, although for this Required Action, Division 3 (HPCS) is considered redundant to Division 1 and Division 2 ECCS). Redundant required feature failures consist of inoperable features associated with a division redundant to the division that has an inoperable DG.

The Completion Time is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

a. An inoperable common DG exists; and

b. A redundant required feature on another division is inoperable.

If, at any time during the existence of this Condition (the common DG inoperable due to pre-planned maintenance, modification, or testing), a redundant required feature subsequently becomes inoperable, this Completion Time begins to be tracked.

Discovering the common DG inoperable coincident with one or more redundant required support or supported features, or both, that are associated with the redundant OPERABLE DG(s),

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ACTIONS

B.3 (continued)

results in starting the Completion Time for the Required Action. Four hours from the discovery of these events existing concurrently is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown. The remaining OPERABLE DGs and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. Thus, on a component basis, single failure protection for the required feature's function may have been lost; however, function has not been lost. The 4 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 4 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and low probability of a DBA occurring during this period.

B.4

One common DG provides onsite standby power to the Division 1 emergency buses on both units. This Required Action provides a 7 day time period to perform pre-planned maintenance or testing on the common DG while precluding the shutdown of both units. Pre-planned maintenance or testing includes preventative maintenance, modifications, and performance of Surveillance Requirements. The Note to Condition B effectively only allows the 7 day Completion Time to be used for the common DG when the opposite unit is not in MODE 1, 2, or 3. When the common DG becomes inoperable while both units are in MODE 1, 2, or 3, Condition C must be entered for both units and the associated Required Actions performed. The 4.16 kV emergency bus design is sufficient to allow operation to continue in Condition B for a period that should not exceed 7 days. In this condition, the remaining OPERABLE DGs and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. The 7 day Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and low probability of a DBA occurring during this period.

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BASES

ACTIONS

B.4 (continued)

The second Completion Time for Required Action B.4 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet LCO 3.8.1.a or b. If Condition B is entered while, for instance, an offsite circuit is inoperable and that circuit is subsequently restored OPERABLE, the LCO may already have been not met for up to 7 days. This situation could lead to a total of 14 days, since initial failure of the LCO, to restore the DG. At this time, an offsite circuit could again become inoperable, the DG restored OPERABLE, and an additional 7 days (for a total of 21 days) allowed prior to complete restoration of the LCO. The 10 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet LCO 3.8.1.a or b. This limit is considered reasonable for situations in which Conditions are entered concurrently for combinations of Conditions A, B, and C. The "AND" connector between the 7 day and 10 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive must be met.

Similar to Required Action B.3, the Completion Time of Required Action B.4 allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This exception results in establishing the "time zero" at the time LCO 3.8.1.a or b was initially not met, instead of the time that Condition B was entered.

C.1

To ensure a highly reliable power source remains, it is necessary to verify the availability of the remaining required offsite circuit on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in a Required Action being not met. However, if a circuit fails to pass SR 3.8.1.1, it is inoperable. Upon offsite circuit inoperability, additional Conditions must then be entered.

(continued)

BASES

ACTIONS (continued)

C.2

Required Action C.2 is intended to provide assurance that a loss of offsite power, during the period that the DG(s) is inoperable as described in Condition C, does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related divisions (i.e., single division systems are not included, although, for this Required Action, Division 3 (HPCS System) is considered redundant to Division 1 and 2 ECCS). Redundant required features failures consist of inoperable features associated with a division redundant to the division that has an inoperable DG.

The Completion Time is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

a. An inoperable DG exists; and

b. A redundant required feature on another division is inoperable.

If, at any time during the existence of this Condition (DG(s) inoperable as described in Condition C), a redundant required feature subsequently becomes inoperable, this Completion Time begins to be tracked.

Discovering required DG(s) inoperable coincident with one or more redundant required support or supported features, or both, that are associated with the redundant OPERABLE DG(s), results in starting the Completion Time for the Required Action. Four hours from the discovery of these events existing concurrently is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown.

The remaining OPERABLE DGs and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. Thus, on a component basis, single failure protection for the required feature's function may have been lost; however, function has not been lost. The

(continued)

BASES

ACTIONS

C.2 (continued)

4 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 4 hour Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and low probability of a DBA occurring during this period.

C.3.1 and C.3.2

Required Action C.3.1 provides an allowance to avoid unnecessary testing of OPERABLE DGs. If it can be determined that the cause of the inoperable DG(s) does not exist on the OPERABLE DG(s), SR 3.8.1.2 does not have to be performed. If the cause of inoperability exists on other DGs, the other DGs are declared inoperable upon discovery, and Condition F or H of LCO 3.8.1 is entered, as applicable. Once the failure is repaired, and the common cause failure no longer exists, Required Action C.3.1 is satisfied. If the cause of the initial inoperable DG cannot be confirmed not to exist on the remaining DG(s), performance of SR 3.8.1.2 suffices to provide assurance of continued OPERABILITY of those DG(s).

In the event the inoperable DG(s) is restored to OPERABLE status prior to completing either C.3.1 or C.3.2, the station corrective action program will continue to evaluate the common cause possibility. This continued evaluation, however, is no longer under the 24 hour constraint imposed while in Condition C.

According to Generic Letter 84-15 (Ref. 7), 24 hours is reasonable time to confirm that the OPERABLE DG(s) are not affected by the same problem as the inoperable DG.

C.4

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition C for a period that should not exceed 72 hours. In this condition, the remaining OPERABLE DGs and offsite circuits are adequate to supply electrical power to the onsite Class 1E distribution system. The 72 hour Completion Time takes into account the capacity and

(continued)

ACTIONS

C.4 (continued)

capability of the remaining AC sources, reasonable time for repairs, and low probability of a DBA occurring during this period.

The second Completion Time for Required Action C.4 established a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet LCO 3.8.1.a or b. If Condition C is entered while, for instance, the common DG is inoperable due to pre-planned maintenance and that DG is subsequently restored OPERABLE, the LCO may already have been not met for up to 7 days. This situation could lead to a total of 10 days, since initial failure to meet the LCO, to restore the unit DG. At this time, an offsite circuit could become inoperable, the unit DG restored OPERABLE, and an additional 7 days (for a total of 17 days) allowed prior to complete restoration of the LCO. The 10 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet LCO 3.8.1.a or b. This limit is considered reasonable for situations in which Conditions are entered concurrently for combinations of Conditions A, B, and C. The "AND" connector between the 72 hour and 10 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.

Similar to Required Action C.2, the Completion Time of Required Action C.4 allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This exception results in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition C was entered.

D.1 and D.2

Required Action D.1 addresses actions to be taken in the event of concurrent failure of redundant required features. Required Action D.1 reduces the vulnerability to a loss of function. The Completion Time for taking these actions is reduced to 12 hours from that allowed with only one division without offsite power (Required Action A.2). The rationale

(continued)

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D.1 and D.2 (continued)

for the reduction to 12 hours is that Regulatory Guide 1.93 (Ref. 6) allows a Completion Time of 24 hours for two required offsite circuits inoperable, based upon the assumption that two complete safety divisions are OPERABLE. When a concurrent redundant required feature failure exists, this assumption is not the case, and a shorter Completion Time of 12 hours is appropriate. These features are designed with redundant safety related divisions (i.e., single division systems are not included in the list, although, for this Required Action, Division 3 (HPCS System) is considered redundant to Division 1 and 2 ECCS). Redundant required features failures consist of any of these features that are inoperable, because any inoperability is on a division redundant to a division with inoperable offsite circuits.

The Completion Time for Required Action D.1 is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

a. Two required offsite circuits are inoperable; and

b. A redundant required feature is inoperable.

If, at any time during the existence of this Condition (two offsite circuits inoperable), a redundant required feature subsequently becomes inoperable, this Completion Time begins to be tracked.

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition D for a period that should not exceed 24 hours. This level of degradation means that the offsite electrical power system may not have the capability to effect a safe shutdown and to mitigate the effects of an accident; however, the onsite AC sources have not been degraded. This level of degradation generally corresponds to a total loss of the immediately accessible offsite power sources.

(continued)

ACTIONS

D.1 and D.2 (continued)

Because of the normally high availability of the offsite sources, this level of degradation may appear to be more severe than other combinations of two AC sources inoperable that involve one or more DGs inoperable. However, two factors tend to decrease the severity of this degradation level:

a. The configuration of the redundant AC electrical power system that remains available is not susceptible to a single bus or switching failure; and

b. The time required to detect and restore an unavailable offsite power source is generally much less than that required to detect and restore an unavailable onsite AC source.

With two of the required offsite circuits inoperable, sufficient onsite AC sources are available to maintain the unit in a safe shutdown condition in the event of a DBA or transient. In fact, a simultaneous loss of offsite AC sources, a LOCA, and a worst case single failure were postulated as a part of the design basis in the safety analysis. Thus, the 24 hour Completion Time provides a period of time to effect restoration of one of the offsite circuits commensurate with the importance of maintaining an AC electrical power system capable of meeting its design criteria.

According to Regulatory Guide 1.93 (Ref. 6), with the available offsite AC sources two less than required by the LCO, operation may continue for 24 hours. If two offsite sources are restored within 24 hours, unrestricted operation may continue. If only one offsite source is restored within 24 hours, power operation continues in accordance with Condition A.

E.1 and E.2

Pursuant to LCO 3.0.6, the Distribution System ACTIONS would not be entered even if all AC sources to it were inoperable, resulting in de-energization. Therefore, the Required Actions of Condition E are modified by a Note to indicate that when Condition E is entered with no AC source to any

(continued)

BASES

ACTIONS

E.1 and E.2 (continued)

required division (i.e., the division is de-energized), Actions for LCO 3.8.7, "Distribution Systems — Operating," must be immediately entered. This allows Condition E to provide requirements for the loss of an offsite circuit and one required unit DG without regard to whether a division is de-energized. LCO 3.8.7 provides the appropriate restrictions for a de-energized division.

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition E for a period that should not exceed 12 hours. In Condition E, individual redundancy is lost in both the offsite electrical power system and the onsite AC electrical power system. Since power system redundancy is provided by two diverse sources of power, however, the reliability of the power systems in this Condition may appear higher than that in Condition D (loss of both required offsite circuits). This difference in reliability is offset by the susceptibility of this power system configuration to a single bus or switching failure. The 12 hour Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and low probability of a DBA occurring during this period.

F.1

With two required unit DGs inoperable or both required Division 2 DGs inoperable, there is no more than two remaining standby AC sources. Thus, with an assumed loss of offsite electrical power, sufficient standby AC sources may not be available to power the minimum required ESF functions. Since the offsite electrical power system is the only source of AC power for the majority of ESF equipment at this level of degradation, the risk associated with continued operation for a very short time could be less than that associated with an immediate controlled shutdown (the immediate shutdown could cause grid instability, which could result in a total loss of AC power). Since any inadvertent generator trip could also result in a total loss of offsite AC power, however, the time allowed for continued operation is severely restricted. The intent here is to avoid the risk associated with an immediate controlled shutdown and to minimize the risk associated with this level of degradation.

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BASES

ACTIONS

F.1 (continued)

According to Regulatory Guide 1.93 (Ref. 6), with Division 1 and 2 unit DGs inoperable, operation may continue for a period that should not exceed 2 hours. This Completion Time assumes complete loss of onsite (DG) AC capability to power the minimum loads needed to respond to analyzed events.

In the event the unit Division 3 DG in conjunction with a unit Division 1 or 2 DG is inoperable, with a unit Division 1 or 2 DG remaining, a significant spectrum of breaks would be capable of being responded to with onsite power. Even the worst case event would be mitigated to some extent-an extent greater than a typical two division design in which this condition represents a complete loss of function. Given the remaining function, a 72 hour Completion Time is appropriate. At the end of this 72 hour period, the unit Division 3 system (HPCS System) could be declared inoperable (See Applicability Note 1) and this Condition could be exited with only one remaining required unit DG inoperable. However, with a unit Division 1 or 2 DG remaining inoperable and the HPCS System declared inoperable, a redundant required feature failure exists, according to Required Action B.3 or C.2.

In the event the required opposite unit Division 2 DG is inoperable in conjunction with a unit Division 2 DG inoperable, the opposite unit Division 2 subsystems (e.g., SGT subsystem) could be declared inoperable at the end of the 2 hour Completion Time (see Applicability Note 2) and this Condition could be exited with only one required unit DG remaining inoperable. However, with the given unit Division 2 DG remaining inoperable and the opposite unit Division 2 subsystems declared inoperable, redundant required feature failures exist, according to Required Action C.2.

G.1 and G.2

If the inoperable AC electrical power sources cannot be restored to OPERABLE status within the associated Completion Time, the unit must be brought to a MODE in which the LCO

(continued)

BASES

ACTIONS

G.1 and G.2 (continued)

does not apply. To achieve this status, the unit 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 the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

H.1

Condition H corresponds to a level of degradation in which all redundancy in the AC electrical power supplies has been lost. At this severely degraded level, any further losses in the AC electrical power system will cause a loss of function. Therefore, no additional time is justified for continued operation. The unit is required by LCO 3.0.3 to commence a controlled shutdown.

SURVEILLANCE REQUIREMENTS

The AC sources are designed to permit inspection and testing of all important areas and features, especially those that have a standby function, in accordance with 10 CFR 50, GDC 18 (Ref. 8). Periodic component tests are supplemented by extensive functional tests during refueling outages under simulated accident conditions. The SRs for demonstrating the OPERABILITY of the DGs are consistent with the recommendations of Regulatory Guide 1.9 (Ref. 3) and Regulatory Guide 1.137 (Ref. 9).

The Surveillances are modified by two Notes to clearly identify how the Surveillances apply to the given unit and opposite unit's Division 2 DGs. Note 1 states that SR 3.8.1.1 through SR 3.8.1.20 are applicable only to the given unit AC electrical power sources and Note 2 states that SR 3.8.1.21 is applicable to the opposite unit's Division 2 DG. These Notes are necessary since the opposite unit AC electrical power source is not required to meet all of the requirements of the given unit AC electrical power sources (e.g., the opposite unit DG is not required to start on the opposite unit's ECCS initiation signal to support OPERABILITY of the given unit).

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BASES

SURVEILLANCE REQUIREMENTS (continued)

Where the SRs discussed herein specify voltage and frequency tolerances, the following summary is applicable. The minimum steady state output voltage of 4010 V is greater than 90% of the nominal 4160 V output voltage. This value, which is conservative with respect to the value specified in ANSI C84.1 (Ref. 10), allows for voltage drop to the terminals of 4000 V motors whose minimum operating voltage is specified as 90%, or 3600 V. It also allows for voltage drops to motors and other equipment down through the 120 V level where minimum operating voltage is also usually specified as 90% of name plate rating. The specified maximum steady state output voltage of 4310 V is within the maximum operating voltage of 110% specified for 4000 V motors. It ensures that for a lightly loaded distribution system, the voltage at the terminals of 4000 V motors is no more than the maximum rated operating voltages. The specified minimum and maximum frequencies of the DG are 58.8 Hz and 61.2 Hz, respectively. These values are equal to ± 2% of the 60 Hz nominal frequency and are derived from the recommendations given in Regulatory Guide 1.9 (Ref. 3).

SR 3.8.1.1

This SR ensures proper circuit continuity for the offsite AC electrical power supply to the onsite distribution network and availability of offsite AC electrical power. The breaker alignment verifies that each breaker is in its correct position to ensure that distribution buses and loads are connected or capable of being connected to their power source and that appropriate independence of offsite circuits is maintained. The 7 day Frequency is adequate since breaker position is not likely to change without the operator being aware of it and because its status is displayed in the control room.

SR 3.8.1.2 and SR 3.8.1.7

These SRs help to ensure the availability of the standby electrical power supply to mitigate DBAs and transients and maintain the unit in a safe shutdown condition.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.2 and SR 3.8.1.7 (continued)

To minimize the wear on moving parts that do not get lubricated when the engine is not running, these SRs have been modified by Notes (Note 1 for SR 3.8.1.7 and Note 1 for SR 3.8.1.2) to indicate that all DG starts for these Surveillances may be preceded by an engine prelube period and followed by a warmup period prior to loading, as recommended by the manufacturer.

For the purposes of this testing, the DGs are started from normal standby conditions. Normal standby conditions for a DG mean that the diesel engine jacket water and lube oil temperatures are within the prescribed temperature bands of these subsystems when the DG has been at rest for an extended period with the pre-lube oil and jacket water circulating systems operational.

In order to reduce stress and wear on diesel engines, the manufacturer has recommended that the starting speed of DGs be limited, that warmup be limited to this lower speed, and that DGs be gradually accelerated to synchronous speed prior to loading. These start procedures are the intent of Note 2 of SR 3.8.1.2.

SR 3.8.1.7 requires that, at a 184 day Frequency, the DG starts from standby conditions and achieves required voltage and frequency within 13 seconds. The 13 second start requirement supports the assumptions in the design basis LOCA analysis (Ref. 5). The 13 second start requirement may not be applicable to SR 3.8.1.2 (see Note 2 of SR 3.8.1.2), when a modified start procedure as described above is used. If a modified start is not used, the 13 second start requirement of SR 3.8.1.7 applies. Since SR 3.8.1.7 does require a 13 second start, it is more restrictive than SR 3.8.1.2, and it may be performed in lieu of SR 3.8.1.2.

In addition, the DG is required to maintain proper voltage and frequency limits after steady state is achieved. The voltage and frequency limits are normally achieved within 13 seconds. The time for the DG to reach steady state operation, unless the modified DG start method is employed, is periodically monitored and the trend evaluated to identify degradation of governor and voltage regulator performance.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.2 and SR 3.8.1.7 (continued)

To minimize testing of the common DG, Note 3 of SR 3.8.1.2 and Note 2 of SR 3.8.1.7 allow a single test for the common DG (instead of two tests, one for each unit) to satisfy the requirements of both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

The 31 day Frequency for SR 3.8.1.2 is consistent with Regulatory Guide 1.9 (Ref. 3). The 184 day Frequency for SR 3.8.1.7 is a reduction in cold testing consistent with Generic Letter 84-15 (Ref. 7). These Frequencies provide adequate assurance of DG OPERABILITY, while minimizing degradation resulting from testing.

SR 3.8.1.3

This Surveillance demonstrates that the DGs are capable of synchronizing and accepting greater than or equal to 90% of the DG continuous load rating. A minimum run time of 60 minutes is required to stabilize engine temperatures, while minimizing the time that the DG is connected to the offsite source.

Although no power factor requirements are established by this SR, the DG is normally operated at a power factor between 0.8 lagging and 1.0 when running synchronized with the grid. The 0.8 power factor value is the design rating of the machine at a particular kVA. The 1.0 power factor value is an operational limitation condition where the reactive power component is zero, which minimizes the reactive heating of the generator. Operating the generator at a power factor between 0.8 lagging and 1.0 avoids adverse conditions associated with underexciting the generator and more closely represents the generator operating requirements when performing its safety function (running isolated on its associated 4160 V emergency bus). The load band is provided to avoid routine overloading of the DG. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.3 (continued)

The 31 day Frequency for this Surveillance is consistent with Regulatory Guide 1.9 (Ref. 3).

Note 1 modifies this Surveillance to indicate that diesel engine runs for this Surveillance may include gradual loading, as recommended by the manufacturer, so that mechanical stress and wear on the diesel engine are minimized.

Note 2 modifies this Surveillance by stating that momentary transients because of changing bus loads do not invalidate this test.

Note 3 indicates that this Surveillance must be conducted on only one DG at a time in order to avoid common cause failures that might result from offsite circuit or grid perturbations.

Note 4 stipulates a prerequisite requirement for performance of this SR. A successful DG start must precede this test to credit satisfactory performance.

To minimize testing of the common DG, Note 5 allows a single test of the common DG (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

SR 3.8.1.4

This SR provides verification that the level of fuel oil in the day tank is at or above the level at which the low level alarm is annunciated. The level is expressed as an equivalent volume in gallons, and is selected to ensure adequate fuel oil for a minimum of 50 minutes of DG operation at rated capacity.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.4 (continued)

The 31 day Frequency is adequate to assure that a sufficient supply of fuel oil is available, since low level alarms are provided and facility operators would be aware of any large uses of fuel oil during this period.

SR 3.8.1.5

Microbiological fouling is a major cause of fuel oil degradation. There are numerous bacteria that can grow in fuel oil and cause fouling, but all must have a water environment in order to survive. Removal of water from the fuel oil day tanks once every 31 days eliminates the necessary environment for bacterial survival. This is most effective means in controlling microbiological fouling. In addition, it eliminates the potential for water entrainment in the fuel oil during DG operation. Water may come from any of several sources, including condensation, rain water, contaminated fuel oil, and breakdown of the fuel oil by bacteria. Frequent checking for and removal of accumulated water minimizes fouling and provides data regarding the watertight integrity of the fuel oil system. The Surveillance Frequency is established by Regulatory Guide 1.137 (Ref. 10). This SR is for preventive maintenance. The presence of water does not necessarily represent a failure of this SR provided that accumulated water is removed during performance of this Surveillance.

SR 3.8.1.6

This Surveillance demonstrates that each required fuel oil transfer pump operates and automatically transfers fuel oil from its associated storage tank to its associated day tank. It is required to support the continuous operation of standby power sources. This Surveillance provides assurance that the fuel oil transfer pump is OPERABLE, the fuel oil piping system is intact, the fuel delivery piping is not obstructed, and the controls and control systems for automatic fuel transfer systems are OPERABLE.

The Frequency for this SR corresponds to the testing requirements for pumps as contained in the ASME Boiler and Pressure Vessel Code, Section XI (Ref. 11).

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BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.8

Transfer of each Division 1 and 2 4.16 kV emergency bus power supply from the normal offsite circuit to the alternate offsite circuit demonstrates the OPERABILITY of the alternate circuit distribution network to power the Division 1 and 2 shutdown loads. The 24 month Frequency of the Surveillance is based on engineering judgment taking into consideration the plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths. Operating experience has shown that these components usually pass the SR when performed on the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

SR 3.8.1.9

Each DG is provided with an engine overspeed trip to prevent damage to the engine. Recovery from the transient caused by the loss of a large load could cause diesel engine overspeed, which, if excessive, might result in a trip of the engine. This Surveillance demonstrates the DG load response characteristics and capability to reject the largest single load without exceeding predetermined frequency and while maintaining a specified margin to the overspeed trip. The load referenced for the Division 1 DG is the 1190 kW low pressure core spray pump; for the Division 2 DG, the 638 kW residual heat removal (RHR) pump; and for the Division 3 DG the 2421 kW HPCS pump. This Surveillance may be accomplished by:

a. Tripping the DG output breaker with the DG carrying greater than or equal to its associated single largest post-accident load while paralleled to offsite power, or while solely supplying the bus; or

b. Tripping its associated single largest post-accident load with the DG solely supplying the bus.

Consistent with Regulatory Guide 1.9 (Ref. 3), the load rejection test is acceptable if the diesel speed does not exceed 75% of the difference between nominal speed and the overspeed trip setpoint, or 15% above nominal speed, whichever is lower. This corresponds to 66.7 Hz, which is

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SURVEILLANCE REQUIREMENTS

SR 3.8.1.9 (continued)

the nominal speed plus 75% of the difference between nominal speed and the overspeed trip setpoint. The 24 month Frequency takes into consideration the plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

This SR has been modified by a Note. To minimize testing of the common DG, a Note allows a single test of the common DG (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

SR 3.8.1.10

Consistent with Regulatory Guide 1.9 (Ref. 3), paragraph C.2.2.8, this Surveillance demonstrates the DG capability to reject a full load without overspeed tripping or exceeding the predetermined voltage limits. The DG full load rejection may occur because of a system fault or inadvertent breaker tripping. This Surveillance ensures proper engine generator load response under the simulated test conditions. This test simulates the loss of the total connected load that the DG experiences following a full load rejection and verifies that the DG does not trip upon loss of the load. These acceptance criteria provide DG damage protection. While the DG is not expected to experience this transient during an event, and continues to be available, this response ensures that the DG is not degraded for future application, including reconnection to the bus if the trip initiator can be corrected or isolated.

The 24 month Frequency takes into consideration the plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

This SR has been modified by a Note. To minimize testing of the common DG, a Note allows a single test of the common DG (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main

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SURVEILLANCE REQUIREMENTS

SR 3.8.1.10 (continued)

purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

SR 3.8.1.11

Consistent with Regulatory Guide 1.9 (Ref. 3), paragraph C.2.2.4, this Surveillance demonstrates the as designed operation of the standby power sources during loss of the offsite source. This test verifies all actions encountered from the loss of offsite power, including shedding of the nonessential loads (Divisions 1 and 2 only) and energization of the emergency buses and respective loads from the DG. It further demonstrates the capability of the DG to automatically achieve the required voltage and frequency within the specified time.

The DG auto-start and energization of permanently connected loads time of 13 seconds is derived from requirements of the accident analysis for responding to a design basis large break LOCA (Ref. 5). The Surveillance should be continued for a minimum of 5 minutes in order to demonstrate that all starting transients have decayed and stability has been achieved.

The requirement to verify the connection and power supply of permanently connected loads and auto-connected loads is intended to satisfactorily show the relationship of these loads to the DG loading logic. In certain circumstances, many of these loads cannot actually be connected or loaded without undue hardship or potential for undesired operation. For instance, ECCS injection valves are not desired to be stroked open, systems are not capable of being operated at full flow, or RHR systems performing a decay heat removal function are not desired to be realigned to the ECCS mode of operation. In lieu of actual demonstration of the connection and loading of these loads, testing that

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SURVEILLANCE REQUIREMENTS

SR 3.8.1.11 (continued)

adequately shows the capability of the DG system to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified.

The Frequency of 24 months takes into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

This SR is modified by a Note. The reason for the Note is to minimize wear and tear on the DGs during testing. The prelube period shall be consistent with manufacturer recommendations. For the purpose of this testing, the DGs must be started from normal standby conditions, that is, with the engine jacket water and lube oil temperatures within the prescribed temperature bands of these subsystems when the DG has been at rest for an extended period with the pre-lube oil and jacket water circulating systems operational.

SR 3.8.1.12

Consistent with Regulatory Guide 1.9 (Ref. 3), paragraph C.2.2.5, this Surveillance demonstrates that the DG automatically starts and achieves the required voltage and frequency within the specified time (13 seconds) from the design basis actuation signal (LOCA signal). In addition, the DG is required to maintain proper voltage and frequency limits after steady state is achieved. The voltage and frequency limits are normally achieved within 13 seconds. The time for the DG to reach the steady state voltage and frequency limits is periodically monitored and the trend evaluated to identify degradation of governor and voltage regulator performance. The DG is required to operate for $\geq$ 5 minutes. The 5 minute period provides sufficient time to demonstrate stability.

The Frequency of 24 months takes into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with the expected fuel cycle lengths.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.12 (continued)

This SR is modified by a Note. The reason for the Note is to minimize wear and tear on the DGs during testing. The prelube period shall be consistent with manufacturer recommendations. For the purpose of this testing, the DGs must be started from normal standby conditions, that is, with the engine jacket water and lube oil temperatures within the prescribed temperature bands of these subsystems when the DG has been at rest for an extended period with the pre-lube oil and jacket water circulating systems operational.

SR 3.8.1.13

Consistent with Regulatory Guide 1.9 (Ref. 3) paragraph C.2.2.12, this Surveillance demonstrates that DG non-critical protective functions (e.g., high jacket water temperature) are bypassed on a loss of voltage signal concurrent with an ECCS initiation test signal and critical protective functions (engine overspeed and generator differential current) trip the DG to avert substantial damage to the DG unit. The non-critical trips are bypassed during DBAs and provide an alarm on an abnormal engine condition. This alarm provides the operator with sufficient time to react appropriately. The DG availability to mitigate the DBA is more critical than protecting the engine against minor problems that are not immediately detrimental to emergency operation of the DG.

The 24 month Frequency is based on engineering judgment, taking into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

SR 3.8.1.14

Consistent with Regulatory Guide 1.9 (Ref. 3), paragraph C.2.2.9, this Surveillance requires demonstration that the DGs can start and run continuously near full load capability for an interval of not less than 24 hours, 22 hours of which is at a load equivalent to 92% and 100% of the continuous rating of the DG, and 2 hours of which is at

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SURVEILLANCE REQUIREMENTS

SR 3.8.1.14 (continued)

a load between the 2000 hour rating and the 7 day rating of the DG. The DG starts for this Surveillance can be performed either from normal standby or hot conditions. The provisions for prelube and warmup, discussed in SR 3.8.1.2, and for gradual loading, discussed in SR 3.8.1.3, are applicable to this SR.

In order to ensure that the DG is tested under load conditions that are as close to design conditions as possible, testing must be performed at a power factor as close to the accident load power factor as practicable. When synchronized with offsite power, the power factor limit is $\leq$ 0.85. This power factor is chosen to bound the actual worst case inductive loading that the DG could experience under design basis accident conditions.

The 24 month Frequency takes into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

This Surveillance is modified by three Notes. Note 1 states that momentary transients due to changing bus loads do not invalidate this test. The load band is provided to avoid routine overloading of the DG. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY. Similarly, momentary power factor transients above the limit do not invalidate the test. Note 2 is provided in recognition that under certain conditions, it is necessary to allow the surveillance to be conducted at a power factor other than the specified limit. These conditions occur when grid voltage is high, and the additional field excitation needed to get the power factor to the specified limit results in voltages on the emergency buses that are too high. Under these conditions, the power factor should be maintained as close as practicable to the specified limit while still maintaining acceptable voltage limits on the emergency buses. In other circumstances, the grid voltage may be such that the DG excitation levels needed to obtain the specified power factor may not cause unacceptable voltages on the emergency buses, but the

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SURVEILLANCE REQUIREMENTS

SR 3.8.1.14 (continued)

transient voltage at the generator terminals would be in excess of those recommended for the DG, if the DG output breaker were to trip during the Surveillance. In such cases, the power factor shall be maintained as close as practicable to the specified limit while still ensuring that if the DG output breaker were to trip during the Surveillance that the maximum DG winding voltage would not be exceeded. To minimize testing of the common DG, Note 3 allows a single test of the common DG (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

SR 3.8.1.15

This Surveillance demonstrates that the diesel engine can restart from a hot condition, such as subsequent to shutdown from normal Surveillances, and achieve the required voltage and frequency within 13 seconds. The 13 second time is derived from the requirements of the accident analysis for responding to a design basis large break LOCA (Ref. 5). In addition, the DG is required to maintain proper voltage and frequency limits after steady state is achieved. The voltage and frequency limits are normally achieved within 13 seconds. The time for the DG to reach the steady state voltage and frequency limits is periodically monitored and the trend evaluated to identify degradation of governor and voltage regulator performance.

The 24 month Frequency takes into consideration the plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

This SR has been modified by three Notes. Note 1 ensures that the test is performed with the diesel sufficiently hot. The requirement that the diesel has operated for at least 2 hours at 92% to 100% of full load conditions prior to performance of this Surveillance is based on manufacturer recommendations for achieving hot conditions. The load band

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.15 (continued)

is provided to avoid routine overloading of the DG. Routine overloads may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY. Momentary transients due to changing bus loads do not invalidate this test. Note 2 allows all DG starts to be preceded by an engine prelube period to minimize wear and tear on the diesel during testing. The prelube period shall be consistent with manufacturer recommendations. To minimize testing of the common DG, Note 3 allows a single test of the common DG (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

SR 3.8.1.16

Consistent with Regulatory Guide 1.9 (Ref. 3), paragraph C.2.2.11, this Surveillance ensures that the manual synchronization and automatic load transfer from the DG to the offsite source can be made and that the DG can be returned to ready-to-load status when offsite power is restored. It also ensures that the auto-start logic is reset to allow the DG to reload if a subsequent loss of offsite power occurs. The DG is considered to be in ready-to-load status when the DG is at rated speed and voltage, the output breaker is open and can receive an auto-close signal on bus undervoltage, and the individual load time delay relays are reset.

The Frequency of 24 months takes into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.17

Consistent with Regulatory Guide 1.9 (Ref. 3), paragraph C.2.2.13, demonstration of the parallel test mode override ensures that the DG availability under accident conditions is not compromised as the result of testing. Interlocks to the LOCA sensing circuits cause the Divisions 1 and 2 DGs to automatically reset to ready-to-load operation if an ECCS initiation signal is received during operation in the test mode. Ready-to-load operation is defined as the DG running at rated speed and voltage with the DG output breaker open. These provisions for automatic switchover are required by IEEE-308 (Ref. 12), paragraph 6.2.6(2).

The Division 3 DG overcurrent trip of the SAT feeder breaker to the respective Division 3 emergency bus demonstrates the ability of the Division 3 DG to remain connected to the emergency bus and supplying the necessary loads.

The 24 month Frequency takes into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

SR 3.8.1.18

Under accident conditions with loss of offsite power loads are sequentially connected to the bus by the individual time delay relays. The sequencing logic controls the permissive and starting signals to motor breakers to prevent overloading of the DGs due to high motor starting currents. The 10% load sequence time interval tolerance ensures that a sufficient time interval exists for the DG to restore frequency and voltage prior to applying the next load and that safety analysis assumptions regarding ESF equipment time delays are not violated. Reference 2 provides a summary of the automatic loading of emergency buses. Since only the Division 1 and 2 DGs have more than one load block, this SR is only applicable to these DGs.

The Frequency of 24 months takes into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.19

In the event of a DBA coincident with a loss of offsite power, the DGs are required to supply the necessary power to ESF systems so that the fuel, RCS, and containment design limits are not exceeded.

This Surveillance demonstrates the DG operation, as discussed in the Bases for SR 3.8.1.11, during a loss of offsite power actuation test signal in conjunction with an ECCS initiation signal. In lieu of actual demonstration of connection and loading of loads, testing that adequately shows the capability of the DG system to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified.

The Frequency of 24 months takes into consideration plant conditions required to perform the Surveillance and is intended to be consistent with an expected fuel cycle length.

This SR is modified by a Note. The reason for the Note is to minimize wear and tear on the DGs during testing. The prelube period shall be consistent with manufacturer recommendations. For the purpose of this testing, the DGs must be started from normal standby conditions, that is, with the engine jacket water and lube oil temperatures within the prescribed temperature bands of these subsystems when the DG has been at rest for an extended period with the pre-lube oil and jacket water circulating systems operational.

SR 3.8.1.20

This Surveillance demonstrates that the unit DG starting independence has not been compromised. Also, this Surveillance demonstrates that each engine can achieve proper frequency and voltage within the specified time when the unit DGs are started simultaneously.

The 10 year Frequency is consistent with the recommendations of Regulatory Guide 1.9, paragraph C.2.2.14 (Ref. 3).

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.20 (continued)

This SR is modified by a Note. The reason for the Note is to minimize wear on the DG during testing. The prelube period shall be consistent with manufacturer recommendations. For the purpose of this testing, the DGs must be started from normal standby conditions, that is, with the engine jacket water and lube oil temperatures within the prescribed temperature bands of these subsystems when the DG has been at rest for an extended period with the pre-lube oil and jacket water circulating systems operational.

SR 3.8.1.21

With the exception of this Surveillance, all other Surveillances of this Specification (SR 3.8.1.1 through SR 3.8.1.20) are applied to the given unit AC sources. This Surveillance is provided to direct that appropriate Surveillances for the required opposite unit AC source is governed by the applicable opposite unit Technical Specifications. Performance of the applicable opposite unit Surveillances will satisfy the opposite unit requirements as well as satisfy the given unit Surveillance Requirement. Exceptions are noted to the opposite unit SRs of LCO 3.8.1. SR 3.8.1.20 is excepted since only one opposite unit DG is required by the given unit Specification. SR 3.8.1.12, SR 3.8.1.13, SR 3.8.1.17, SR 3.8.1.18, and SR 3.8.1.19 are excepted since these SRs test the opposite unit's ECCS initiation signal, which is not required for the AC electrical power sources to be OPERABLE on a given unit.

The Frequency required by the applicable opposite unit SR also governs performance of that SR for the given unit.

As noted, if the opposite unit is in MODE 4 or 5, or moving irradiated fuel assemblies in secondary containment, SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, and SR 3.8.1.14 through SR 3.8.1.16 are not required to be performed. This ensures that a given unit SR will not require an opposite unit SR to be performed, when the opposite unit Technical Specifications exempts performance of an opposite unit SR (however, as stated in the opposite unit SR 3.8.2.1 Note 1, while performance of an SR is exempted, the SR must still be met).

(continued)

BASES (continued)

REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. UFSAR, Chapter 8.
3. Regulatory Guide 1.9.
4. UFSAR, Chapter 6.
5. UFSAR, Chapter 15.
6. Regulatory Guide 1.93.
7. Generic Letter 84-15, July 2, 1984.
8. 10 CFR 50, Appendix A, GDC 18.
9. Regulatory Guide 1.137.
10. ANSI C84.1, 1982.
11. ASME, Boiler and Pressure Vessel Code, Section XI.
12. IEEE Standard 308.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.2 AC Sources — Shutdown

BASES

BACKGROUND

A description of the AC sources is provided in the Bases for LCO 3.8.1, "AC Sources — Operating."

APPLICABLE SAFETY ANALYSES

The OPERABILITY of the minimum AC sources during MODES 4 and 5, and during movement of irradiated fuel assemblies in the secondary containment ensures that:

a. The unit can be maintained in the shutdown or refueling condition for extended periods;

b. Sufficient instrumentation and control capability is available for monitoring and maintaining the unit status; and

c. Adequate AC electrical power is provided to mitigate events postulated during shutdown, such as an inadvertent draindown of the vessel or a fuel handling accident.

In general, when the unit is shutdown the Technical Specifications (TS) requirements ensure that the unit has the capability to mitigate the consequences of postulated accidents. However, assuming a single failure and concurrent loss of all offsite or loss of all onsite power is not required. The rationale for this is based on the fact that many Design Basis Accidents (DBAs) that are analyzed in MODES 1, 2, and 3 have no specific analyses in MODES 4 and 5. Worst case bounding events are deemed not credible in MODES 4 and 5 because the energy contained within the reactor pressure boundary, reactor coolant temperature and pressure, and the corresponding stresses result in the probabilities of occurrence significantly reduced or eliminated, and minimal consequences. These deviations from DBA analysis assumptions and design requirements during shutdown conditions are allowed by the LCO for required systems.

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

During MODES 1, 2, and 3, various deviations from the analysis assumptions and design requirements are allowed within the ACTIONS. This allowance is in recognition that certain testing and maintenance activities must be conducted provided an acceptable level of risk is not exceeded. During MODES 4 and 5, performance of a significant number of required testing and maintenance activities is also required. In MODES 4 and 5, the activities are generally planned and administratively controlled. Relaxations from typical MODE 1, 2, and 3 LCO requirements are acceptable during shutdown MODES based on:

a. The fact that time in an outage is limited. This is a risk prudent goal as well as utility economic consideration.

b. Requiring appropriate compensatory measures for certain conditions. These may include administrative controls, reliance on systems that do not necessarily meet typical design requirements applied to systems credited in operating MODE analyses, or both.

c. Prudent utility consideration of the risk associated with multiple activities that could affect multiple systems.

d. Maintaining, to the extent practical, the ability to perform required functions (even if not meeting MODE 1, 2, and 3 OPERABILITY requirements) with systems assumed to function during an event.

In the event of an accident during shutdown, this LCO ensures the capability of supporting systems necessary to avoid immediate difficulty, assuming either a loss of all offsite power or a loss of all onsite (diesel generator (DG)) power.

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

LCO

One offsite circuit capable of supplying onsite unit Class 1E power distribution subsystem(s) of LCO 3.8.8, "Distribution Systems — Shutdown," ensures that all required Division 1 loads, Division 2 loads, and Division 3 loads are

(continued)

BASES

LCO (continued)

powered from offsite power. An OPERABLE unit DG, associated with a Division 1 or Division 2 Distribution System emergency bus required OPERABLE by LCO 3.8.8, ensures a diverse power source is available to provide electrical power support, assuming a loss of the offsite circuit. Similarly, when the High Pressure Core Spray (HPCS) System is required to be OPERABLE, an OPERABLE Division 3 DG ensures a diverse source of power for the HPCS System is available to provide electrical power support, assuming a loss of the offsite power circuit. Additionally, when the Standby Gas Treatment (SGT) System, Control Room Area Filtration (CRAF) System, or Control Room Area Ventilation Air Conditioning System is required to be OPERABLE, one qualified offsite circuit (normal or alternate) between the offsite transmission network and the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem or an opposite unit DG capable of supporting the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem is required to be OPERABLE. Together, OPERABILITY of the required offsite circuit(s) and DG(s) ensure the availability of sufficient AC sources to operate the plant in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents, reactor vessel draindown).

The qualified offsite circuit(s) must be capable of maintaining rated frequency and voltage while connected to their respective emergency bus(es), and of accepting required loads during an accident. Qualified offsite circuits are those that are described in the UFSAR and are part of the licensing basis for the plant. An OPERABLE qualified normal offsite circuit consists of the required incoming breaker(s) and disconnects from the 345 kV switchyard to and including the SAT or UAT (backfeed mode), the respective circuit path to and including the feeder breakers to the required Division 1, 2, and 3 emergency buses.

An OPERABLE qualified alternate offsite circuit consists of the required incoming breaker(s) and disconnects from the 345 kV switchyard to and including the SAT or UAT (backfeed mode), to and including the opposite unit 4.16 kV emergency bus, the opposite unit circuit path to and including the unit tie breakers (breakers 1414, 1424, 2414, and 2424), and the respective circuit path to the required Division 1 and 2 emergency buses.

(continued)

BASES

LCO (continued)

The required DG must be capable of starting, accelerating to rated speed and voltage, and connecting to its respective emergency bus on detection of bus undervoltage, and accepting required loads. This sequence must be accomplished within 13 seconds. Each DG must also be capable of accepting required loads within the assumed loading sequence intervals, and must continue to operate until offsite power can be restored to the emergency buses. These capabilities are required to be met from a variety of initial conditions such as: DG in standby with the engine hot and DG in standby with the engine at ambient conditions. Additional DG capabilities must be demonstrated to meet required Surveillances, e.g., capability of the Division 1 and 2 DGs to revert to standby status on an ECCS signal while operating in parallel test mode.

Proper sequencing of loads, including tripping of nonessential loads, is a required function for DG OPERABILITY. The necessary portions of the DG Cooling Water System and Ultimate Heat Sink capable of providing cooling to the required DG(s) are also required.

It is acceptable for divisions to be cross tied during shutdown conditions, permitting a single offsite power circuit to supply all required divisions.

APPLICABILITY

The AC sources required to be OPERABLE in MODES 4 and 5 and during movement of irradiated fuel assemblies in the secondary containment provide assurance that:

a. Systems to provide adequate coolant inventory makeup are available for the irradiated fuel in the core in case of an inadvertent draindown of the reactor vessel;

b. Systems needed to mitigate a fuel handling accident are available;

c. Systems necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and

d. Instrumentation and control capability is available for monitoring and maintaining the unit in a cold shutdown condition or refueling condition.

(continued)

BASES

APPLICABILITY (continued)	The AC power requirements for MODES 1, 2, and 3 are covered in LCO 3.8.1.

ACTIONS

LCO 3.0.3 is not applicable while in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Entering LCO 3.0.3 while in MODE 1, 2, or 3 would require the unit to be shutdown, but would not require immediate suspension of movement of irradiated fuel assemblies. The Note to the ACTIONS, "LCO 3.0.3 is not applicable," ensures that the actions for immediate suspension of irradiated fuel assembly movement are not postponed due to entry into LCO 3.0.3.

A.1

An offsite circuit is considered inoperable if it is not available to one required 4.16 kV emergency bus. If two or more 4.16 kV emergency buses are required per LCO 3.8.8, division(s) with offsite power available may be capable of supporting sufficient required features to allow continuation of CORE ALTERATIONS, fuel movement, and operations with a potential for draining the reactor vessel. By the allowance of the option to declare required features inoperable that are not capable of being powered from offsite power, appropriate restrictions can be implemented in accordance with the required feature(s) LCOs' ACTIONS. Required features remaining capable of being powered from a qualified offsite circuit, even if that circuit is considered inoperable because it is not capable of powering other required features, are not declared inoperable by this Required Action.

A.2.1, A.2.2, A.2.3, A.2.4, B.1, B.2, B.3, and B.4

With the offsite circuit not available to all required divisions, the option still exists to declare all required features inoperable per Required Action A.1. Since this

(continued)

BASES

ACTIONS

A.2.1, A.2.2, A.2.3, A.2.4, B.1, B.2, B.3, and B.4 (continued)

option may involve undesired administrative efforts, the allowance for sufficiently conservative actions is made. With the required DG inoperable, the minimum required diversity of AC power sources is not available. It is, therefore, required to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment, and activities that could potentially result in inadvertent draining of the reactor vessel.

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize probability of the occurrence of postulated events. It is further required to initiate action immediately to restore the required AC sources and to continue this action until restoration is accomplished in order to provide the necessary AC power to the plant safety systems.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required AC electrical power sources should be completed as quickly as possible in order to minimize the time during which the plant safety systems may be without sufficient power.

Pursuant to LCO 3.0.6, the Distribution System ACTIONS are not entered even if all AC sources to it are inoperable, resulting in de-energization. Therefore, the Required Actions of Condition A have been modified by a Note to indicate that when Condition A is entered with no AC power to any required emergency bus, ACTIONS for LCO 3.8.8 must be immediately entered. This Note allows Condition A to provide requirements for the loss of the offsite circuit whether or not a division is de-energized. LCO 3.8.8 provides the appropriate restrictions for the situation involving a de-energized division.

(continued)

BASES

ACTIONS (continued)

C.1

When the HPCS System is required to be OPERABLE, and the Division 3 DG is inoperable, the required diversity of AC power sources to the HPCS System is not available. Since these sources only affect the HPCS System, the HPCS System is declared inoperable and the Required Actions of LCO 3.5.2, "Emergency Core Cooling Systems—Shutdown," entered.

In the event all sources of power to Division 3 are lost, Condition A will also be entered and direct that the ACTIONS of LCO 3.8.8 be taken. If only the Division 3 DG is inoperable, and power is still supplied to HPCS System, 72 hours is allowed to restore the DG to OPERABLE. This is reasonable considering the HPCS System will still perform its function, absent a loss of offsite power.

D.1

When the SGT System, CRAF System, or Control Room Area Ventilation Air Conditioning System is required to be OPERABLE, and the required opposite unit Division 2 AC source is inoperable, the associated SGT subsystem, CRAF subsystem, and control room ventilation area air conditioning subsystem are declared inoperable and the Required Actions of the affected LCOs are entered.

The immediate Completion Time is consistent with the required times for actions requiring prompt attention. The restoration of the required opposite unit Division 2 AC electrical power source should be completed as quickly as possible in order to minimize the time during which the aforementioned safety systems are without sufficient power.

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1

SR 3.8.2.1 requires the SRs from LCO 3.8.1 that are necessary for ensuring the OPERABILITY of the AC sources in other than MODES 1, 2, and 3 to be applicable. SR 3.8.1.8 is not required to be met since only one offsite circuit is required to be OPERABLE. SR 3.8.1.17 is not required to be

(continued)

BASES

SURVEILLANCE REQUIREMENTS	SR 3.8.2.1 (continued) met because the required OPERABLE DG(s) is not required to undergo periods of being synchronized to the offsite circuit. SR 3.8.1.20 is excepted because starting independence is not required with the DG(s) that is not required to be OPERABLE. Refer to the corresponding Bases for LCO 3.8.1 for a discussion of each SR. This SR is modified by two Notes. The reason for Note 1 is to preclude requiring the OPERABLE DG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during the performance of SRs, and to preclude de-energizing a required 4.16 kV emergency bus or disconnecting a required offsite circuit during performance of SRs. With limited AC sources available, a single event could compromise both the required circuit and the DG. It is the intent that these SRs must still be capable of being met, but actual performance is not required during periods when the DG and offsite circuit are required to be OPERABLE. Note 2 states that SRs 3.8.1.12 and 3.8.1.19 are not required to be met when its associated ECCS subsystem(s) are not required to be OPERABLE. These SRs demonstrate the DG response to an ECCS initiation signal (either alone or in conjunction with a loss of offsite power signal). This is consistent with the ECCS instrumentation requirements that do not require the ECCS initiation signals when the associated ECCS subsystem is not required to be OPERABLE per LCO 3.5.2, "ECCS — Shutdown."
REFERENCES	None.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.3 Diesel Fuel Oil and Starting Air

BASES

BACKGROUND

Each diesel generator (DG) is provided with a stored fuel oil capacity sufficient to operate that DG for a period of 7 days while the DG is supplying maximum post loss of coolant accident load demand (Ref. 1). The maximum load demand is calculated using the assumption that at least two DGs are available. This onsite fuel oil capacity is sufficient to operate the DGs for longer than the time to replenish the onsite supply from outside sources.

Fuel oil is transferred from each storage tank to its respective day tank by a transfer pump associated with each storage tank. Redundancy of pumps and piping precludes the failure of one pump, or the rupture of any pipe, valve, or tank to result in the loss of more than one DG. All system piping and components, except for fill piping and vents, are located within the diesel buildings. The fuel oil level in the storage tanks is indicated locally, and each storage tank is provided with low level switches that actuate alarm annunciators in the main control room.

For proper operation of the standby DGs, it is necessary to ensure the proper quality of the fuel oil. Regulatory Guide 1.137 (Ref. 2) addresses the recommended fuel oil practices as supplemented by ANSI N195 (Ref. 3). The fuel oil properties governed by these SRs are the water and sediment content, the flashpoint and kinematic viscosity, specific gravity (or API gravity), and impurity level.

Each Division 1 and Division 2 DG has two air start subsystems, each with adequate capacity for five successive starts on the DG without recharging the air start receivers. Each Division 3 DG has two air start subsystems, each with adequate capacity for three successive starts on the DG without recharging the air start receivers.

APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident (DBA) and transient analyses in UFSAR, Chapter 6 (Ref. 4) and Chapter 15 (Ref. 5), assume Engineered Safety Feature (ESF)

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)	systems are OPERABLE. The DGs are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to ESF systems so that fuel, reactor coolant system, and containment design limits are not exceeded. These limits are discussed in more detail in the Bases for Section 3.2, Power Distribution Limits; Section 3.5, Emergency Core Cooling (ECCS) and Reactor Core Isolation Cooling (RCIC) System; and Section 3.6, Containment Systems. Since diesel fuel oil and starting air subsystems support the operation of the standby AC power sources, they satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).
LCO	Stored diesel fuel oil is required to have sufficient supply for 7 days of full load operation. It is also required to meet specific standards for quality. This requirement, in conjunction with an ability to obtain replacement supplies within 7 days, supports the availability of DGs required to shut down the reactor and to maintain it in a safe condition for an anticipated operational occurrence (AOO) or a postulated DBA with loss of offsite power. DG day tank fuel requirements, as well as transfer capability from the storage tank to the day tank, are addressed in LCO 3.8.1, "AC Sources — Operating," and LCO 3.8.2, "AC Sources — Shutdown." The starting air system is required to have a minimum capacity for five successive Division 1 and 2 DG starts and three successive Division 3 DG starts without recharging the air start receivers. Only one air start receiver set (and associated air start header) per DG is required, since each air start receiver set has the required capacity.
APPLICABILITY	The AC sources (LCO 3.8.1 and LCO 3.8.2), are required to ensure the availability of the required power to shut down the reactor and maintain it in a safe shutdown condition after an AOO or a postulated DBA. Since stored diesel fuel oil and starting air subsystems support LCO 3.8.1 and LCO 3.8.2, stored diesel fuel oil and starting air are required to be within limits when the associated DG is required to be OPERABLE.

(continued)

BASES (continued)

ACTIONS

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

A.1

With stored fuel oil level not within the specified limit, the 7 day fuel oil supply for a DG is not available. However, the Condition is restricted to fuel oil level reductions that maintain at least a 6 day supply. These circumstances may be caused by events such as:

a. Full load operation required after an inadvertent start while at minimum required level; or

b. Feed and bleed operations that may be necessitated by increasing particulate levels or any number of other oil quality degradations.

This restriction allows sufficient time for obtaining the requisite replacement volume and performing the analyses required prior to addition of the fuel oil to the tank. A period of 48 hours is considered sufficient to complete restoration of the required level prior to declaring the DG inoperable. This period is acceptable based on the remaining capacity (> 6 days), the fact that actions will be initiated to obtain replenishment, and the low probability of an event during this brief period.

B.1

This Condition is entered as a result of a failure to meet the acceptance criterion for particulates. Normally, trending of particulate levels allows sufficient time to correct high particulate levels prior to reaching the limit of acceptability. Poor sample procedures (bottom sampling), contaminated sampling equipment, and errors in laboratory

(continued)

BASES

ACTIONS

B.1 (continued)

analysis can produce failures that do not follow a trend. Since the presence of particulates does not mean failure of the fuel oil to burn properly in the diesel engine, since particulate concentration is unlikely to change significantly between Surveillance Frequency intervals, and since proper engine performance has been recently demonstrated (within 31 days), it is prudent to allow a brief period prior to declaring the associated DG inoperable. The 7 day Completion Time allows for further evaluation, resampling, and re-analysis of the DG fuel oil.

C.1

With the new fuel oil properties defined in the Bases for SR 3.8.3.2 not within the required limits, a period of 30 days is allowed for restoring the stored fuel oil properties. This period provides sufficient time to test the stored fuel oil to determine that the new fuel oil, when mixed with previously stored fuel oil, remains acceptable, or to restore the stored fuel oil properties. This restoration may involve feed and bleed procedures, filtering, or a combination of these procedures. Even if a DG start and load was required during this time interval and the fuel oil properties were outside limits, there is high likelihood that the DG would still be capable of performing its intended function.

D.1

With required starting air receiver pressure < 200 psig, sufficient capacity for five successive starts for the Division 1 or 2 DG or three successive starts for the Division 3 DG, as applicable, does not exist. However, as long as the receiver pressure is > 165 psig, there is adequate capacity for at least one start, and the DG can be considered OPERABLE while the air receiver pressure is restored to the required limit. A period of 48 hours is considered sufficient to complete restoration to the

(continued)

BASES

ACTIONS

D.1 (continued)

required pressure prior to declaring the DG inoperable. This period is acceptable based on the remaining air start capacity, the fact that most DG starts are accomplished on the first attempt, and the low probability of an event during this brief period.

E.1

With a Required Action and associated Completion Time of Condition A, B, C, or D not met, or the stored diesel fuel oil or starting air subsystem not within limits of this Specification for reasons other than addressed by Conditions A through D, the associated DG may be incapable of performing its intended function and must be immediately declared inoperable.

SURVEILLANCE REQUIREMENTS

SR 3.8.3.1

This SR provides verification that there is an adequate inventory of fuel oil in the storage tanks to support each DG's operation for 7 days at full load. The 7 day period is sufficient time to place the unit in a safe shutdown condition and to bring in replenishment fuel from an offsite location.

The 31 day Frequency is adequate to ensure that a sufficient supply of fuel oil is available, since low level alarms are provided and unit operators would be aware of any large uses of fuel oil during this period.

SR 3.8.3.2

The tests of new fuel prior to addition to the storage tanks are a means of determining whether new fuel oil is of the appropriate grade and has not been contaminated with substances that would have an immediate detrimental impact on diesel engine combustion and operation. If results from these tests are within acceptable limits, the fuel oil may be added to the storage tanks without concern for

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.3.2 (continued)

contaminating the entire volume of fuel oil in the storage tanks. These tests are to be conducted prior to adding the new fuel to the storage tank(s). The tests, limits, and applicable ASTM Standards are as follows:

a. Sample the new fuel oil in accordance with ASTM D4057-95 (Ref. 6);

b. Verify in accordance with the tests specified in ASTM D975-98b (Ref. 6) that: 1) the sample has an absolute specific gravity at 60°F of $\geq$ 0.83 and $\leq$ 0.89 (or an API gravity at 60°F of $\geq$ 27 and $\leq$ 39); 2) a kinematic viscosity at 40°C of $\geq$ 1.9 centistokes and $\leq$ 4.1 centistokes; 3) and a flash point of $\geq$ 125°F; and

c. Verify that the new fuel oil has a clear and bright appearance with proper color when tested in accordance with ASTM D4176-93 (Ref. 6) or a water and sediment content within limits when tested in accordance with ASTM D975-98b (Ref. 6). The clear and bright appearance with proper color test is only applicable to fuels that meet the ASTM color requirement (i.e., ASTM color 5 or less).

Failure to meet any of the above limits is cause for rejecting the new fuel oil, but does not represent a failure to meet the LCO since the fuel oil is not added to the storage tanks.

Following the initial new fuel oil sample, the fuel oil is analyzed within 31 days following addition of the new fuel oil to the fuel oil storage tank(s) to establish that the other properties specified in Table 1 of ASTM D975-98b (Ref. 6) are met for new fuel oil when tested in accordance with ASTM D975-98b (Ref. 6), except that the analysis for sulfur may be performed in accordance with ASTM D4294-98 (Ref. 6) or ASTM D2622-98 (Ref. 6). The 31 day period is acceptable because the fuel oil properties of interest, even if not within stated limits, would not have an immediate effect on DG operation. This Surveillance ensures the availability of high quality fuel oil for the DGs.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.3.2 (continued)

Fuel oil degradation during long term storage shows up as an increase in particulate, mostly due to oxidation. The presence of particulate does not mean that the fuel oil will not burn properly in a diesel engine. However, the particulate can cause fouling of filters and fuel oil injection equipment, which can cause engine failure.

Particulate concentrations should be determined in accordance with ASTM D5452-98 (Ref. 6). This method involves a gravimetric determination of total particulate concentration in the fuel oil and has a limit of 10 mg/l. It is acceptable to obtain a field sample for subsequent laboratory testing in lieu of field testing.

The Frequency of this Surveillance takes into consideration fuel oil degradation trends indicating that particulate concentration is unlikely to change between Frequency intervals.

SR 3.8.3.3

This Surveillance ensures that, without the aid of the refill compressor, sufficient air start capacity for each DG is available. The system design requirements provide for a minimum of five engine starts for each Division 1 and Division 2 DG, and three engine starts for each Division 3 DG without recharging. The pressure specified in this SR is intended to support the lowest value at which the required number of starts can be accomplished.

The 31 day Frequency takes into account the capacity, capability, redundancy, and diversity of the AC sources and other indications available in the control room, including alarms, to alert the operator to below normal air start pressure.

REFERENCES

1. UFSAR, Section 9.5.4.

2. Regulatory Guide 1.137.

3. ANSI N195, Appendix B, 1976.

(continued)

BASES

REFERENCES (continued)

4. UFSAR, Chapter 6.

5. UFSAR, Chapter 15.

6. ASTM Standards: D4057-95; D975-98b; D4176-93; D4294-98; D2622-98; D5452-98.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.4 DC Sources — Operating

BASES

BACKGROUND

The station DC electrical power system provides the AC emergency power system with control power. It also provides both motive and control power to selected safety related equipment. As required by 10 CFR 50, Appendix A, GDC 17 (Ref. 1), the DC electrical power system is designed to have sufficient independence, redundancy, and testability to perform its safety functions, assuming a single failure. The DC electrical power system also conforms to the requirements of Regulatory Guide 1.6 (Ref. 2) and IEEE-308 (Ref. 3).

The 125 VDC electrical power system consists of three independent Class 1E DC electrical power subsystems, Divisions 1, 2, and 3. The 250 VDC electric power system consists of one Class 1E DC electrical power subsystem, Division 1. Each subsystem consists of a battery, associated battery charger, and all the associated control equipment and interconnecting cabling.

During normal operation, the DC loads are powered from the battery chargers with the batteries floating on the system. In case of loss of normal power to the battery charger, the DC loads are automatically powered from the batteries.

The Division 1 safety related DC power source consists of one 125 V and one 250 V battery bank and associated full capacity battery chargers (one per battery bank). The Division 1 125 V DC power source provides the control power for its associated Class 1E AC power load group, 4.16 kV switchgear, and 480 V load centers and control power for non-Class 1E loads. Also, the 125 V DC power sources provide DC power to the emergency lighting system, diesel generator (DG) auxiliaries, and the DC control power for the Engineered Safety Feature (ESF) and non-ESF systems. The 250 V DC power source supplies power to the Reactor Core Isolation Cooling (RCIC) System, and RCIC primary containment isolation valves (PCIVs). It also supplies power to the main turbine emergency bearing oil pumps, main generator emergency seal oil pumps, and the process computer, however, these are not Technical Specification related loads.

(continued)

BASES

BACKGROUND (continued)

The Division 2 safety related DC power source consists of a 125 V battery bank and associated full capacity charger. This 125 V battery provides the control power for its associated Class 1E AC power load group, 4.16 kV switchgear, and 480 V load centers and control power for non-Class 1E loads. Also, this 125 V battery provides DC power to the emergency lighting system, diesel generator (DG) auxiliaries, and the DC control power for ESF and non-ESF systems.

The Division 3 safety related DC power source consists of a 125 V battery bank and associated full capacity charger, and provides power for the High Pressure Core Spray (HPCS) DG field flashing control logic and switching function of 4.16 kV Division 3 breakers. It also provides power for the HPCS System logic, HPCS DG control and protection, and Division 3 related controls.

The opposite unit Division 2 safety related DC power source consists of a 125 V battery bank and associated full capacity charger. This 125 V battery provides the control power for its associated Class 1E AC power load group, 4.16 kV switchgear, and 480 V load centers and control power for non-Class 1E loads. Also, this 125 V battery provides DC power to the opposite unit's emergency lighting system, diesel generator (DG) auxiliaries, and DC control power for the ESF and non-ESF systems.

The DC power distribution system is described in more detail in the Bases for LCO 3.8.7, "Distribution Systems — Operating," and LCO 3.8.8, "Distribution Systems — Shutdown."

Each Division 1, 2, and 3 battery has adequate storage capacity to carry the required load continuously for at least 4 hours as discussed in the UFSAR, Section 8.3.2 (Ref. 4).

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

(continued)

BASES

BACKGROUND (continued)

between redundant Class 1E subsystems such as batteries, battery chargers, or distribution panels.

The batteries for a DC electrical power subsystem are sized to produce required capacity at 80% of nameplate rating, corresponding to warranted capacity at end of life cycles and the 100% design demand. The voltage design limit is 1.81 V per cell (Ref. 4).

Each Division 1, 2, and 3 DC electrical power subsystem battery charger 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 bank from the design minimum charge to its fully charged state while supplying normal steady state loads (Ref. 4).

APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident (DBA) and transient analyses in the UFSAR, Chapter 6 (Ref. 5), and Chapter 15 (Ref. 6), assume that ESF systems are OPERABLE. The DC electrical power system provides normal and emergency DC electrical power for the DGs, 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 DC sources OPERABLE during accident conditions in the event of:

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

b. A worst case single failure.

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

LCO

The Division 1, 2, and 3, and opposite unit Division 2 DC electrical power subsystems, each subsystem consisting of one battery, one battery charger, and the corresponding control equipment and interconnecting cabling supplying

(continued)

BASES

LCO (continued)

power to the associated bus within the divisions, 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. 4).

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 and other conditions in which the DC electrical power sources are required are addressed in LCO 3.8.5, "DC Sources — Shutdown."

ACTIONS

A.1

Condition A represents 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. 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 2 hour limit is consistent with the allowed time for an inoperable DC distribution system division.

If one of the Division 1 or 2 125 V DC electrical power subsystems is inoperable (e.g., inoperable battery, inoperable battery charger, or inoperable battery charger and associated inoperable battery), the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. Since

(continued)

BASES

ACTIONS

A.1 (continued)

a subsequent worst case single failure could, however, result in the loss of minimum necessary DC electrical subsystems, continued power operation should not exceed 2 hours. The 2 hour Completion Time is based on Regulatory Guide 1.93 (Ref. 7) 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.

B.1

With the Division 3 DC electrical power subsystem inoperable, the HPCS System may be incapable of performing its intended function and must be immediately declared inoperable. This declaration also requires entry into applicable Conditions and Required Actions of LCO 3.5.1, "ECCS — Operating."

C.1

With the Division 1 250 V DC electrical power subsystem inoperable, the RCIC System and the RCIC DC powered PCIVs may be incapable of performing their intended functions and must be immediately declared inoperable. This declaration also requires entry into applicable Conditions and Required Actions of LCO 3.5.3, "RCIC System," and LCO 3.6.1.3, "PCIVs."

D.1

If the opposite unit Division 2 125 V DC electrical power subsystem is inoperable (e.g., inoperable battery, inoperable charger, or inoperable battery charger and associated battery), certain redundant Division 2 features (e.g., a standby gas treatment subsystem) will not function if a design basis event were to occur. Therefore, a 7 day Completion Time is provided to restore the opposite unit Division 2 125 V DC electrical power subsystem to

(continued)

BASES

ACTIONS

D.1 (continued)

OPERABLE status. The 7 day Completion Time takes into account the capacity and capability of the remaining DC electrical power subsystems, and is based on the shortest restoration time allowed for the systems affected by the inoperable DC electrical power subsystem in the respective system specifications.

E.1 and E.2

If the DC electrical power subsystem cannot be restored to OPERABLE status within the associated Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant 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 specified in Regulatory Guide 1.93 (Ref. 7).

SURVEILLANCE REQUIREMENTS

The Surveillances are modified by two Notes to clearly identify how the Surveillances apply to the given unit and opposite unit DC electrical power sources. Note 1 states that SR 3.8.4.1 through SR 3.8.4.8 are applicable only to the given unit DC electrical power sources and Note 2 states that SR 3.8.4.9 is applicable to the opposite unit DC electrical power sources. These Notes are necessary since opposite unit DC electrical power sources are not required to perform all of the requirements of the given unit DC electrical power sources (e.g., the opposite unit battery is not required to perform SR 3.8.4.6, SR 3.8.4.7, and 3.8.4.8 under certain conditions when not in MODE 1, 2, or 3).

SR 3.8.4.1

Verifying battery terminal voltage while on float charge 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

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1 (continued)

charger is supplying the continuous charge required to overcome the internal losses of a battery and maintain the battery in a fully charged state. The voltage requirements are based on the nominal design voltage of the battery and are conservative when compared with the initial voltages assumed in the battery sizing calculations. The 7 day Frequency is consistent with manufacturers recommendations and IEEE-450 (Ref. 8).

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 established for this SR are within the values established by industry practice. The connection resistance limits of this SR are related to the resistance of individual bolted connections, and do not include the resistance of conductive components (e.g., cables or conductors located between cells, racks, or tiers).

The Surveillance 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.

The presence of physical damage or deterioration does not necessarily represent a failure of this SR, provided an evaluation determines that the physical damage or

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.3 (continued)

deterioration does not affect the OPERABILITY of the battery (its ability to perform its design function).

The 24 month Frequency for the Surveillance is based on engineering judgement. Operating experience has shown that these components usually pass the SR when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

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 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 for this SR are within the values established by industry practice. The connection resistance limits of this SR are related to the resistance of individual bolted connections, and do not include the resistance of conductive components (e.g., cables or conductors located between cells, racks, or tiers).

The 24 month Frequency for the Surveillance is based on engineering judgement. Operating experience has shown that these components usually pass the SR when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

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BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.4.6

Battery charger capability requirements are based on the design capacity of the chargers (Ref. 4). According to Regulatory Guide 1.32 (Ref. 9), 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 ensure that these requirements can be satisfied.

The Surveillance Frequency is acceptable, given the administrative controls existing to ensure adequate charger performance during these 24 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 correspond to the design duty cycle requirements as specified in Reference 4.

The Surveillance Frequency of 24 months is acceptable, given unit conditions required to perform the test and the other requirements existing to ensure adequate battery performance during these 24 month intervals. In addition, this Frequency is intended to be consistent with expected fuel cycle lengths.

This SR is modified by a Note. The reason for the Note is to allow the performance of a modified performance discharge test in lieu of a service test provided the modified performance discharge test completely envelops the service test. This substitution is acceptable because a modified performance discharge test represents a more severe test of battery capacity than SR 3.8.4.7.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

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.

A battery modified performance discharge test is a simulated duty cycle normally consisting of just two rates; the one minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance discharge test, both of which envelope the duty cycle of the service test. (The test can consist of a single rate if the test rate employed for the performance discharge test exceeds the 1 minute rate.) To ensure the modified performance discharge test completely envelopes the service test duty cycle, additional loads and durations of the duty cycle may be added to the modified performance discharge test prior to going to the constant current rate. Since the ampere-hours removed by a rated one minute discharge represents a very small portion of the battery capacity, the test rate can be changed to that for the performance test without compromising the results of the performance discharge test. The battery terminal voltage for the modified performance discharge test should remain above the minimum battery terminal voltage specified in the battery service test for the duration of time equal to that of the service test.

A modified performance discharge test is a test of the battery capacity and its ability to provide a high rate, short duration load (usually the highest rate of the duty cycle). This will often confirm the battery's ability to meet the critical period of the load duty cycle, in addition to determining its percentage of rated capacity. Initial conditions for the modified performance discharge test should be identical to those specified for a service test when the modified performance discharge test is performed in lieu of a service test. Either the battery performance discharge test or the modified performance discharge test is acceptable for satisfying SR 3.8.4.8; however, only the modified performance discharge test may be used to satisfy SR 3.8.4.8 while satisfying the requirements of SR 3.8.4.7 at the same time.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.8 (continued)

The acceptance criteria for this Surveillance is consistent with IEEE-450 (Ref. 8) and IEEE-485 (Ref. 11). These references recommend that the battery be replaced if its capacity is below 80% of the manufacturer's rating, since IEEE-485 (Ref. 11) recommends using an ageing factor of 125% in the battery sizing calculation. 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 Surveillance Frequency for this test is normally 60 months. If the battery shows degradation, or if the battery has reached 85% of its expected life and capacity is < 100% of the manufacturers rating, the Surveillance Frequency is reduced to 12 months. However, if the battery shows no degradation but has reached 85% of its expected life, the Surveillance Frequency is only reduced to 24 months for batteries that retain capacity ≥ 100% of the manufacturers rating. Degradation is indicated, consistent with IEEE-450 (Ref. 8), 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 manufacturers rating. The 12 month and 60 month Frequencies are consistent with the recommendations in IEEE-450 (Ref. 8). The 24 month Frequency is derived from the recommendations of IEEE-450 (Ref. 8).

SR 3.8.4.9

With the exception of this Surveillance, all other Surveillances of this Specification (SR 3.8.4.1 through 3.8.4.8) are applied to the given unit DC sources. This Surveillance is provided to direct that appropriate Surveillances for the required opposite unit DC source are governed by the applicable opposite unit Technical Specifications. Performance of the applicable opposite unit Surveillances will satisfy the opposite unit requirements as well as satisfy the given unit Surveillance Requirement.

The Frequency required by the applicable opposite unit SR also governs performance of that SR for the given unit.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.9 (continued)

As noted, if the opposite unit is in MODE 4 or 5, or moving irradiated fuel assemblies in secondary containment, SR 3.8.4.6, SR 3.8.4.7, and SR 3.8.4.8 are not required to be performed. This ensures that a given unit SR will not require an opposite unit SR to be performed, when the opposite unit Technical Specifications exempts performance of an opposite unit SR (however, as stated in the opposite unit SR 3.8.5.1 Note 1, while performance of an SR is exempted, the SR must still be met).

REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. Regulatory Guide 1.6, March 10, 1971.
3. IEEE Standard 308, 1971.
4. UFSAR, Section 8.3.2.
5. UFSAR, Chapter 6.
6. UFSAR, Chapter 15.
7. Regulatory Guide 1.93, December 1974.
8. IEEE Standard 450, 1987.
9. Regulatory Guide 1.32, August 1972.
10. IEEE Standard 485, 1978.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.5 DC Sources – Shutdown

BASES

BACKGROUND

A description of the DC sources is provided in the Bases for LCO 3.8.4, "DC Sources – Operating."

APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident and transient analyses in the UFSAR, Chapter 6 (Ref. 1) and Chapter 15 (Ref. 2), assume that Engineered Safety Feature systems are OPERABLE. The DC electrical power system provides normal and emergency DC electrical power for the diesel generators, emergency auxiliaries, and control and switching during all MODES of operation and during movement of irradiated fuel assemblies in the secondary containment.

The OPERABILITY of the DC subsystems is consistent with the initial assumptions of the accident analyses and the requirements for the supported systems' OPERABILITY.

The OPERABILITY of the minimum DC electrical power sources during MODES 4 and 5 and during movement of irradiated fuel assemblies in the secondary containment ensures that:

a. The facility can be maintained in the shutdown or refueling condition for extended periods;

b. Sufficient instrumentation and control capability is available for monitoring and maintaining the unit status; and

c. Adequate DC electrical power is provided to mitigate events postulated during shutdown, such as an inadvertent draindown of the vessel or a fuel handling accident.

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

LCO

The DC electrical power subsystems, each consisting of one battery, one battery charger, and the corresponding control equipment and interconnecting cabling supplying

(continued)

BASES

LCO (continued)

power to the associated buses within the division, are required to be OPERABLE to support required DC Distribution System divisions required OPERABLE by LCO 3.8.8, "Distribution Systems — Shutdown." This ensures the availability of sufficient DC electrical power sources to operate the unit in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents and inadvertent reactor vessel draindown).

APPLICABILITY

The DC electrical power sources required to be OPERABLE in MODES 4 and 5 and during movement of irradiated fuel assemblies in the secondary containment provide assurance that:

a. Required features to provide adequate coolant inventory makeup are available for the irradiated fuel assemblies in the core in case of an inadvertent draindown of the reactor vessel;

b. Required features needed to mitigate a fuel handling accident are available;

c. Required features necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and

d. Instrumentation and control capability is available for monitoring and maintaining the unit in a cold shutdown condition or refueling condition.

The DC electrical power requirements for MODES 1, 2, and 3 are covered in LCO 3.8.4.

ACTIONS

LCO 3.0.3 is not applicable while in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Entering LCO 3.0.3 while in MODE 1, 2, or 3

(continued)

BASES

ACTIONS (continued)

would require the unit to be shutdown, but would not require immediate suspension of movement of irradiated fuel assemblies. The Note to the ACTIONS, "LCO 3.0.3 is not applicable," ensures that the actions for immediate suspension of irradiated fuel assembly movement are not postponed due to entry into LCO 3.0.3.

A.1 and A.2

With one or more required Division 1 ,2, and 3 DC electrical power subsystems inoperable, the associated DC electrical power distribution subsystem may not be capable of supporting its required features. However, if the opposite unit's DC electrical power subsystem for the same division is OPERABLE, power can be supplied by the OPERABLE opposite unit DC electrical power subsystem. This will maintain the given unit's DC electrical power distribution subsystem energized from an OPERABLE DC electrical power subsystem, ensuring it remains capable of supporting its required features. Therefore, Required Action A.1 requires verification within 1 hour that the associated DC electrical power distribution subsystem is energized by the OPERABLE opposite unit DC electrical power subsystem. If this cannot be verified within 1 hour, then Condition B is required to be entered and its Required Actions taken. If this can be verified, then operation in the condition is allowed to continue and the inoperable Division 1, 2, and 3 DC electrical power subsystems must be restored to OPERABLE status (and the associated DC electrical power distribution subsystem must be realigned to its unit DC electrical power subsystem) within 72 hours. The Completion Time is acceptable since the opposite unit's DC electrical power subsystem is capable of powering both unit's loads in the event of an accident on the opposite unit and the low probability of an accident occurring during this time. As noted, this allowance is only applicable if the opposite unit is not in MODE 1, 2, or 3. This allowance can not be used with the opposite unit in MODES 1, 2, and 3 since the associated subsystems are required the support the OPERABILITY of opposite unit safety equipment. The Division 2 DC electrical power source subsystem for each unit supports redundant safety equipment for both units and the batteries have insufficient capacity to support the

(continued)

BASES

ACTIONS

A.1 and A.2 (continued)

required loads for both units if either unit is in MODE 1, 2, or 3. Therefore, this allowance is only permitted to be used when both units are in shutdown conditions (MODE 4, 5, or defueled) when divisional separation is not required.

B.1, B.2.1, B.2.2, B.2.3, and B.2.4

If more than one DC distribution subsystem is required according to LCO 3.8.8, the DC subsystems remaining OPERABLE with one or more DC electrical power subsystems inoperable may be capable of supporting sufficient required features to allow continuation of CORE ALTERATIONS, fuel movement, and operations with a potential for draining the reactor vessel. By allowing the option to declare required features inoperable with associated DC electrical power subsystems inoperable, appropriate restrictions are implemented in accordance with the affected system LCOs' ACTIONS. However, in many instances this option may involve undesired administrative efforts. Therefore, the allowance for sufficiently conservative actions is made (i.e., to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment, and any activities that could result in inadvertent draining of the reactor vessel).

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability of the occurrence of postulated events. It is further required to immediately initiate action to restore the required DC electrical power subsystems and to continue this action until restoration is accomplished in order to provide the necessary DC electrical power to the plant safety systems.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required DC electrical power subsystems should be completed as quickly as possible in order to minimize the time during which the plant safety systems may be without sufficient power.

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BASES (continued)

SURVEILLANCE REQUIREMENTS	<u>SR 3.8.5.1</u> SR 3.8.5.1 requires all Surveillances required by SR 3.8.4.1 through SR 3.8.4.9 to be applicable. Therefore, see the corresponding Bases for LCO 3.8.4 for a discussion of each SR. This SR is modified by a Note. The reason for the Note is to preclude requiring the OPERABLE DC sources from being discharged below their capability to provide the required power supply or otherwise rendered inoperable during the performance of SRs. It is the intent that these SRs must still be capable of being met, but actual performance is not required.
REFERENCES	1. UFSAR, Chapter 6. 2. UFSAR, Chapter 15.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.6 Battery Cell Parameters

BASES

BACKGROUND	This LCO delineates the limits on electrolyte temperature, level, float voltage, and specific gravity for the DC power source batteries. A discussion of these batteries and their OPERABILITY requirements is provided in the Bases for LCO 3.8.4, "DC Sources—Operating," and LCO 3.8.5, "DC Sources—Shutdown."
APPLICABLE SAFETY ANALYSES	The initial conditions of Design Basis Accident (DBA) and transient analyses in UFSAR, Chapter 6 (Ref. 1) and Chapter 15 (Ref. 2), assume Engineered Safety Feature systems are OPERABLE. The DC electrical power subsystems provide normal and emergency DC electrical power for the diesel generators, 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 as discussed in the Bases for LCO 3.8.4 and LCO 3.8.5. Since battery cell parameters support the operation of the DC power sources, they satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).
LCO	Battery cell parameters must remain within acceptable limits to ensure availability of the required DC power to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence or a postulated DBA. Electrolyte limits are conservatively established, allowing continued DC electrical system function even with limits not met.
APPLICABILITY	The battery cell parameters are required solely for the support of the associated DC electrical power subsystem. Therefore, these cell parameters are only required when the associated DC electrical power subsystem is required to be OPERABLE. Refer to the Applicability discussion in Bases for LCO 3.8.4 and LCO 3.8.5.

(continued)

BASES (continued)

ACTIONS

The ACTIONS Table is modified by a Note which indicates that separate Condition entry is allowed for each battery. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable DC electrical power subsystem. Complying with the Required Actions for one inoperable DC electrical power subsystem may allow for continued operation, and subsequent inoperable DC electrical power subsystem(s) are governed by separate Condition entry and application of associated Required Actions.

A.1, A.2, and A.3

With parameters of one or more cells in one or more batteries not within Table 3.8.6-1 limits (i.e., Category A limits not met, Category B limits not met, or Category A and B limits not met) but within the Category C limits specified in Table 3.8.6-1, the battery is degraded but there is still sufficient capacity to perform the intended function. Therefore, the affected battery is not required to be considered inoperable solely as a result of Category A or B limits not met, and continued operation is permitted for a limited period.

The pilot cell(s) electrolyte level and float voltage are required to be verified to meet Category C limits within 1 hour (Required Action A.1). This check provides a quick indication of the status of the remainder of the battery cells. One hour provides time to inspect the electrolyte level and to confirm the float voltage of the pilot cell(s). One hour is considered a reasonable amount of time to perform the required verification.

Verification that the Category C limits are met (Required Action A.2) provides assurance that, during the time needed to restore the parameters to the Category A and B limits, the battery is still capable of performing its intended function. A period of 24 hours is allowed to complete the initial verification because specific gravity measurements must be obtained for each connected cell. Taking into consideration both the time required to perform the required verification and the assurance that the battery cell parameters are not severely degraded, this time is

(continued)

BASES

ACTIONS

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

considered reasonable. The verification is repeated at 7 day intervals until the parameters are restored to Category A and B limits. This periodic verification is consistent with the normal Frequency of pilot cell Surveillances.

Continued operation is only permitted for 31 days before battery cell parameters must be restored to within Category A and B limits. Taking into consideration that while battery capacity is degraded, sufficient capacity exists to perform the intended function and to allow time to fully restore the battery cell parameters to normal limits, this time is acceptable for operation prior to declaring the associated DC batteries inoperable.

B.1

When any battery parameter is outside the Table 3.8.6-1 Category C limit for any connected cell, sufficient capacity to supply the maximum expected load requirement is not assured and the corresponding DC electrical power subsystem must be declared inoperable. Additionally, other potentially extreme conditions, such as any Required Actions of Condition A and associated Completion Time not met or average electrolyte temperature of representative cells < 60°F, for the 125 V batteries, or < 65°F for the 250 V battery, also are cause for immediately declaring the associated DC electrical power subsystem inoperable.

SURVEILLANCE REQUIREMENTS

SR 3.8.6.1

The SR verifies that Table 3.8.6-1 Category A battery cell parameters are consistent with IEEE-450 (Ref. 3), which recommends regular battery inspections (at least one per month) including voltage, specific gravity, and electrolyte level of pilot cells.

SR 3.8.6.2

The quarterly inspection of specific gravity, voltage, and electrolyte level for each connected cell is consistent with IEEE-450 (Ref. 3). In addition, within 7 days of a battery

(continued)

BASES

SURVEILLANCE REQUIREMENT

SR 3.8.6.2 (continued)

discharge < 110 V for a 125 V battery and < 220 V for the 250 V battery or a battery overcharge > 150 V for a 125 V battery and > 300 V for the 250 V battery, the battery must be demonstrated to meet Table 3.8.6-1 Category B limits. Transients, such as motor starting transients, which may momentarily cause battery voltage to drop to ≤ 110 V or 220 V, as applicable, do not constitute a battery discharge provided the battery terminal voltage and float return to pre-transient values. This inspection is also consistent with IEEE-450 (Ref. 3), which recommends special inspections following a severe discharge or overcharge, to ensure that no significant degradation of the battery occurs as a consequence of such discharge or overcharge. The 7 day requirement is based on engineering judgement.

SR 3.8.6.3

This Surveillance verification that the average temperature of representative cells is ≥ 60°F for the 125 V batteries and ≥ 65°F for the 250 V battery is consistent with a recommendation of IEEE-450 (Ref. 3), which states that the temperature of electrolytes in representative cells should be determined on a quarterly basis. For this SR, a check of 10 connected cells is considered representative for the 125 V batteries, and a check of 20 connected cells is considered representative for the 250 V battery.

Lower than normal temperatures act to inhibit or reduce battery capacity. This SR ensures that the operating temperatures remain within an acceptable operating range. This limit is based on manufacturer's recommendations and the battery sizing calculations.

Table 3.8.6-1

This Table delineates the limits on electrolyte level, float voltage, and specific gravity for three different categories. The meaning of each category is discussed below.

Category A defines the normal parameter limit for each designated pilot cell in each battery. The cells selected

(continued)

BASES

SURVEILLANCE REQUIREMENTS

Table 3.8.6-1 (continued)

as pilot cells are those whose temperature, voltage, and electrolyte specific gravity approximate the state of charge of the entire battery.

The Category A limits specified for electrolyte level are based on manufacturers recommendations and are consistent with the guidance in IEEE-450 (Ref. 3), with the extra ¼ inch allowance above the high water level indication for operating margin to account for temperatures and charge effects. In addition to this allowance, footnote (a) to Table 3.8.6-1 permits the electrolyte level to be temporarily above the specified maximum level during and following an equalizing charge (i.e., for up to 3 days following the completion of an equalize charge), provided it is not overflowing. These limits ensure that the plates suffer no physical damage, and that adequate electron transfer capability is maintained in the event of transient conditions. IEEE-450 (Ref. 3) recommends that electrolyte level readings should be made only after the battery has been at float charge for at least 72 hours.

The Category A limit specified for float voltage is ≥ 2.13 V per cell. This value is based on the recommendation of IEEE-450 (Ref. 3), which states that prolonged operation of cells below 2.13 V can reduce the life expectancy of cells.

The Category A limit specified for specific gravity for each pilot cell is ≥ 1.200 (0.015 below the manufacturer's fully charged nominal specific gravity or a battery charging current that had stabilized at a low value). This value is characteristic of a charged cell with adequate capacity. According to IEEE-450 (Ref. 3), the specific gravity readings are based on a temperature of 77°F (25°C).

The specific gravity readings are corrected for actual electrolyte temperature and level. For each 3°F (1.67°C) above 77°F (25°C), 1 point (0.001) is added to the reading; 1 point is subtracted for each 3°F below 77°F. The specific gravity of the electrolyte in a cell increases with a loss of water due to electrolysis or evaporation. Level correction will be in accordance with manufacturers recommendations.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

Table 3.8.6-1 (continued)

Category B defines the normal parameter limits for each connected cell. The term "connected cell" excludes any battery cell that may be jumpered out.

The Category B limits specified for electrolyte level and float voltage are the same as those specified for Category A and have been discussed above. The Category B limit specified for specific gravity for each connected cell is ≥ 1.195 (0.020 below the manufacturers fully charged, nominal specific gravity) with the average of all connected cells > 1.205 (0.010 below the manufacturers fully charged, nominal specific gravity). These values are based on manufacturer's recommendations. The minimum specific gravity value required for each cell ensures that a cell with a marginal or unacceptable specific gravity is not masked by averaging with cells having higher specific gravities.

Category C defines the limit for each connected cell. These values, although reduced, provide assurance that sufficient capacity exists to perform the intended function and maintain a margin of safety. When any battery parameter is outside the Category C limit, the assurance of sufficient capacity described above no longer exists, and the battery must be declared inoperable.

The Category C limit specified for electrolyte level (above the top of the plates and not overflowing) ensures that the plates suffer no physical damage and maintain adequate electron transfer capability. The Category C limit for float voltage is based on IEEE-450 (Ref. 3), which states that a cell voltage of 2.07 V or below, under float conditions and not caused by elevated temperature of the cell, indicates internal cell problems and may require cell replacement.

The Category C limit of average specific gravity (≥ 1.195), is based on manufacturer's recommendations (0.020 below the manufacturer's recommended fully charged, nominal specific gravity). In addition to that limit, it is required that the specific gravity for each connected cell must be no

(continued)

BASES

SURVEILLANCE REQUIREMENTS

Table 3.8.6-1 (continued)

more than 0.020 below the average of all connected cells. This limit ensures that the a cell with a marginal or unacceptable specific gravity is not masked by averaging with cells having higher specific gravities.

The footnotes to Table 3.8.6-1 that apply to specific gravity are applicable to Category A, B, and C specific gravity. Footnote (b) requires the above mentioned correction for electrolyte level and temperature.

Because of specific gravity gradients that are produced during the recharging process, delays of several days may occur while waiting for the specific gravity to stabilize. A stabilized charging current is an acceptable alternative to specific gravity measurement for determining the state of charge. This phenomenon is discussed in IEEE-450 (Ref. 3). Footnote (c) allows the float charge current to be used as an alternate to specific gravity for up to 7 days following a battery recharge. Within 7 days each connected cell's specific gravity must be measured to confirm the state of charge. Following a minor battery recharge (such as equalizing charge that does not follow a deep discharge) specific gravity gradients are not significant, and confirming measurements may be made in less than 7 days.

REFERENCES

1. UFSAR, Chapter 6.
2. UFSAR, Chapter 15.
3. IEEE Standard 450, 1987.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.7 Distribution Systems – Operating

BASES

BACKGROUND

The onsite Class 1E AC and DC electrical power distribution system for each unit is divided by division into three independent AC and DC electrical power distribution subsystems. Each unit is also dependent on portions of the opposite unit's Division 2 AC and DC power distribution subsystems.

The primary AC Distribution System consists of three 4.16 kV emergency buses that are supplied from the transmission system by two physically independent circuits. The Division 2 and 3 emergency buses also have a dedicated onsite diesel generator (DG) source, while the Unit 1 and 2 Division 1 buses share an onsite DG source. The Division 1, 2, and 3 4.16 kV emergency buses are normally supplied through the system auxiliary transformer (SAT). In addition to the SAT, Division 1 and 2 can be supplied from the unit auxiliary transformer or the opposite unit's SAT. Control power for the 4.16 kV breakers is supplied from the Class 1E batteries. Additional description of this system may be found in the Bases for LCO 3.8.1, "AC Sources – Operating," and the Bases for LCO 3.8.4, "DC Sources – Operating."

The secondary plant AC distribution system includes 480 V ESF load centers and associated loads, motor control centers, and transformers.

There are three independent 125 VDC electrical power distribution subsystems. The Division 2 Class 1E AC and DC electrical power distribution subsystems associated with each unit are shared by each unit since some systems are common to both units. The opposite unit Division 2 Class 1E AC and DC electrical power distribution subsystems support equipment required to be OPERABLE by LCO 3.6.3.1, "Primary Containment Hydrogen Recombiners," LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Area Filtration (CRAF) System," LCO 3.7.5, "Control Room Area Ventilation Air Conditioning (AC) System," and LCO 3.8.1, "AC Sources – Operating."

(continued)

BASES

BACKGROUND (continued)	The list of all required distribution buses is located in Table B 3.8.7-1.

APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident (DBA) and transient analyses in the UFSAR, Chapter 6 (Ref. 1) and Chapter 15 (Ref. 2), assume Engineered Safety Features (ESF) systems are OPERABLE. The AC and DC electrical power distribution systems are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to ESF systems so that the fuel, Reactor Coolant System, and containment design limits are not exceeded. These limits are discussed in more detail in the Bases for Section 3.2, Power Distribution Limits; Section 3.5, Emergency Core Cooling Systems (ECCS) and Reactor Core Isolation Cooling (RCIC) System; and Section 3.6, Containment Systems.

The OPERABILITY of the AC and DC electrical power distribution systems is consistent with the initial assumptions of the accident analyses and is based upon meeting the design basis of the plant. This includes maintaining the AC and DC electrical power sources and associated distribution systems OPERABLE during accident conditions in the event of:

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

b. A worst case single failure.

The AC and DC electrical power distribution systems satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The required AC and DC electrical power distribution subsystems listed in Table B 3.8.7-1 ensure the availability of AC and DC electrical power for the systems required to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence (AOO) or a postulated DBA. The Division 1, 2, and 3 AC and DC bus electrical power primary distribution subsystems are required to be OPERABLE and certain buses of the opposite unit Division 2 AC and DC electrical power distribution subsystems are required to be OPERABLE to support the

(continued)

BASES

LCO (continued)

equipment required to be OPERABLE by LCO 3.6.3.1, LCO 3.6.4.3, LCO 3.7.4, LCO 3.7.5, and LCO 3.8.1. As noted in Table B 3.8.7-1 (Footnote a), each division of the AC and DC electrical power distribution systems is a subsystem.

Maintaining the Division 1, 2, and 3 AC and DC electrical power distribution subsystems OPERABLE ensures that the redundancy incorporated into the design of ESF is not defeated. Any two of the three divisions of the distribution system are capable of providing the necessary electrical power to the associated ESF components. Therefore, a single failure within any system or within the electrical power distribution subsystems does not prevent safe shutdown of the reactor.

OPERABLE AC electrical power distribution subsystems require the associated buses to be energized to their proper voltages. OPERABLE DC electrical power distribution subsystems require the associated buses to be energized to their proper voltage from either the associated battery or charger.

Based on the number of safety significant electrical loads associated with each bus listed in Table B 3.8.7-1, if one or more of the buses becomes inoperable, entry into the appropriate ACTIONS of LCO 3.8.7 is required. Some buses, such as distribution panels, which help comprise the AC and DC distribution systems are not listed in Table B 3.8.7-1. The loss of electrical loads associated with these buses may not result in a complete loss of a redundant safety function necessary to shut down the reactor and maintain it in a safe condition. Therefore, should one or more of these buses become inoperable due to a failure not affecting the OPERABILITY of a bus listed in Table B 3.8.7-1 (e.g., a breaker supplying a single distribution panel fails open), the individual loads on the bus would be considered inoperable, and the appropriate Conditions and Required Actions of the LCOs governing the individual loads would be entered. However, if one or more of these buses is inoperable due to a failure also affecting the OPERABILITY of a bus listed in Table B 3.8.7-1 (e.g., loss of 4.16 kV emergency bus, which results in de-energization of all buses powered from the 4.16 kV emergency bus), then although the individual loads are still considered inoperable, the Conditions and Required Actions of the LCO for the

(continued)

BASES

LCO (continued)

individual loads are not required to be entered, since LCO 3.0.6 allows this exception (i.e., the loads are inoperable due to the inoperability of a support system governed by a Technical Specification; the 4.16 kV emergency bus).

In addition, at least one tie breaker between the redundant Division 2, safety related AC and DC emergency power distribution subsystems must be open. This prevents any electrical malfunction in any power distribution subsystem from propagating to the redundant subsystem, which could cause the failure of a redundant subsystem and a loss of essential safety function(s). For the Division 2 AC power distribution subsystems, if both the unit tie breakers are closed, the electrical power distribution subsystems that are not being powered from their normal source (i.e., they are being powered from the alternate power source through the redundant electrical power distribution subsystem) are considered inoperable. The restriction of maintaining electrical separation applies to the onsite, safety related, redundant electrical power distribution subsystems. It does not, however, preclude redundant Class 1E 4.16 kV emergency buses from being supplied from the same offsite source. For the DC power distribution subsystems, both the Unit 1 and Unit 2 power distribution subsystems are considered inoperable when both cross tie breakers are closed because of the limitation of the battery capacity to supply both units when in MODES 1, 2, and 3.

APPLICABILITY

The electrical power distribution subsystems are required to be OPERABLE in MODES 1, 2, and 3 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 OPERABILITY and other vital functions are maintained, in the event of a postulated DBA.

Electrical power distribution subsystem requirements for MODES 4 and 5 and other conditions in which AC and DC electrical power distribution subsystems are required. are covered in the Bases for LCO 3.8.8, "Distribution Systems—Shutdown."

(continued)

BASES (continued)

ACTIONS

A.1

With one or more Division 1 and 2 required AC buses, load centers, motor control centers, or distribution panels inoperable and a loss of function has not yet occurred, the remaining AC electrical power distribution subsystems are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining electrical power distribution subsystems could result in the minimum required ESF functions not being supported. Therefore, the required AC buses, load centers, motor control centers, and distribution panels must be restored to OPERABLE status within 8 hours.

The Condition A worst scenario is two divisions without AC power (i.e., no offsite power to the divisions and the associated DGs inoperable). In this situation, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operators' attention be focused on minimizing the potential for loss of power to the remaining division by stabilizing the unit and restoring power to the affected division. The 8 hour time limit before requiring a unit shutdown in this Condition is acceptable because of:

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

b. The low potential for an event in conjunction with a single failure of a redundant component in the division with AC power. (The redundant component is verified OPERABLE in accordance with Specification 5.5.12, "Safety Function Determination Program (SFDP).")

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of

(continued)

BASES

ACTIONS

A.1 (continued)

failing to meet LCO 3.8.7.a. If Condition A is entered while, for instance, a DC electrical power distribution subsystem is inoperable and subsequently returned OPERABLE, LCO 3.8.7.a may already have been not met for up to 2 hours. This situation could lead to a total duration of 10 hours, since initial failure of LCO 3.8.7.a, to restore the AC electrical power distribution system. At this time, a DC electrical power distribution subsystem could again become inoperable, and the AC electrical power distribution could be restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This results in establishing the "time zero" at the time LCO 3.8.7.a was initially not met, instead of at the time Condition A was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet LCO 3.8.7.a indefinitely.

B.1

With one or more Division 1 and 2 DC electrical distribution subsystems inoperable and a loss of function has not yet occurred, the remaining DC electrical power distribution subsystems are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining DC electrical power distribution subsystems could result in the minimum required ESF functions not being supported. Therefore, the required DC electrical power distribution subsystem(s) must be restored to OPERABLE status within 2 hours by powering the bus from the associated battery or charger.

Condition B worst scenario is two divisions without adequate DC power, potentially with both the battery significantly degraded and the associated charger nonfunctioning. In this situation, the plant is significantly more vulnerable to a complete loss of all DC power. It is, therefore, imperative

(continued)

BASES

ACTIONS

B.1 (continued)

that the operator's attention focus on stabilizing the plant, minimizing the potential for loss of power to the remaining divisions, and restoring power to the affected division(s).

This 2 hour limit is more conservative than Completion Times allowed for the majority of components that could be without power. Taking exception to LCO 3.0.2 for components without adequate DC power, that would have Required Action Completion Times shorter than 2 hours, is acceptable because of:

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

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

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

The 2 hour Completion Time for DC electrical power distribution subsystems is consistent with Regulatory Guide 1.93 (Ref. 3).

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet LCO 3.8.7.a. If Condition B is entered while, for instance, an AC electrical power distribution subsystem is inoperable and subsequently returned OPERABLE, LCO 3.8.7.a may already have been not met for up to 8 hours. This situation could lead to a total duration of 10 hours, since initial failure of LCO 3.8.7.a, to restore the DC electrical power distribution system. At this time, an AC

(continued)

ACTIONS

B.1 (continued)

electrical power distribution subsystem could again become inoperable, and DC electrical power distribution subsystem could be restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This allowance results in establishing the "time zero" at the time LCO 3.8.7.a was initially not met, instead of the time Condition B was entered. The 16 hour Completion Time is an acceptable limitation on this potential of failing to meet LCO 3.8.7.a indefinitely.

C.1

With one or more required opposite unit Division 2 AC or DC electrical power distribution subsystems inoperable and a loss of function has not yet occurred, certain redundant Division 2 features (e.g., a standby gas treatment subsystem) will not function if a design basis event were to occur. Therefore, a 7 day Completion Time is provided to restore the required opposite unit Division 2 AC and DC electrical power distribution subsystems to OPERABLE status. The 7 day Completion Time takes into account the capacity and capability of the remaining AC and DC electrical power distribution subsystems, and is based on the shortest restoration time allowed for the systems affected by the inoperable AC and DC electrical power distribution subsystems in the respective system specifications.

D.1 and D.2

If the inoperable electrical power distribution system cannot be restored to OPERABLE status within the associated Completion Times, 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 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.

(continued)

BASES

ACTIONS (continued)

E.1

With the Division 3 electrical power distribution system inoperable (i.e., one or both Division 3 AC or DC electrical power distribution subsystems inoperable), the Division 3 powered systems are not capable of performing their intended functions. Immediately declaring the affected supported features, e.g., the High Pressure Core Spray System and its associated primary containment isolation valves, inoperable allows the ACTIONS of LCO 3.5.1, "ECCS—Operating," and LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," to apply appropriate limitations on continued reactor operation.

F.1

With the Division 1 250 V DC subsystem inoperable, the RCIC System and the RCIC DC powered PCIVs may be incapable of performing their intended functions and must be immediately declared inoperable. This declaration also requires entry into applicable Conditions and Required Actions of LCO 3.5.3, "Reactor Core Isolation Cooling (RCIC) System," and LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)."

G.1

Condition G corresponds to a level of degradation in the electrical power distribution system that causes a required safety function to be lost (single division systems are not included, although for this ACTION Division 3 is considered redundant to Division 1 and 2 ECCS). When two or more inoperable electrical power distribution subsystems result in the loss of a required function, the plant is in a condition outside the accident analysis. Therefore, no additional time is justified for continued operation. LCO 3.0.3 must be entered immediately to commence a controlled shutdown.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.7.1

Meeting this Surveillance verifies that the AC and DC electrical power distribution systems are functioning properly, with the correct circuit breaker alignment. The correct breaker alignment ensures the appropriate separation and independence of the electrical divisions is maintained, and the appropriate voltage is available to each required bus. The verification of proper voltage availability on the buses ensures that the required voltage is readily available for motive as well as control functions for critical system loads connected to these buses. The 7 day Frequency takes into account the redundant capability of the AC and DC electrical power distribution subsystems, and other indications available in the control room that alert the operator to subsystem malfunctions.

REFERENCES

1. UFSAR, Chapter 6.

2. UFSAR, Chapter 15.

3. Regulatory Guide 1.93, Revision 0, December 1974.

Table B 3.8.7-1 (page 1 of 1)
AC and DC Electrical Power Distribution Systems

TYPE	VOLTAGE	DIVISION 1[a]	DIVISION 2[a][b]	DIVISION 3[a]
AC buses	4160 V (Unit 1)	141Y	142Y	143
	4160 V (Unit 2)	241Y	242Y	243
	480 V (Unit 1)	135X and 135Y MCCs 135X-1, 135X-2, 135X-3, 135Y-1, and 135Y-2	136X and 136Y MCCS 136X-1, 136X-2, 136X-3, 136Y-1, and 136Y-2	MCC 143-1
	480 V (Unit 2)	235X and 235Y MCCs 235X-1, 235X-2, 235X-3, 235Y-1, and 235Y-2	236X and 236Y MCCS 236X-1, 236X-2, 236X-3, 236Y-1, and 236Y-2	MCC 243-1
	120 V (Unit 1)	Distribution Panels in 480V MCCS 135X-1, 135X-2, 135X-3, and 135Y-1	Distribution Panels in 480V MCCS 136X-1, 136X-2, 136X-3, and 136Y-2	Distribution Panels in 480V MCC 143-1
	120 V (Unit 2)	Distribution Panels in 480V MCCs 235X-1, 235X-2, 235X-3, and 235Y-1	Distribution Panels in 480V MCCs 236X-1, 236X-2, 236X-3, and 236Y-2	Distribution Panels in 480V MCC 243-1
DC buses	250 V (Unit 1)	MCC 121Y		
	250 V (Unit 2)	MCC 221Y		
	125 V (Unit 1)	Distribution Panel 111Y	Distribution Panel 112Y	Distribution Panel 113
	125 V (Unit 2)	Distribution Panel 211Y	Distribution Panel 212Y	Distribution Panel 213

(a) Each division of the AC and DC electrical power distribution systems is a subsystem.

(b) OPERABILITY requirements of the opposite unit's Division 2 AC and DC electrical power distribution subsystems require OPERABILITY of all the opposite unit's Division 2 4160 VAC, 480 VAC, 120 VAC, and 125 VDC buses listed in this Table.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.8 Distribution Systems — Shutdown

BASES

BACKGROUND

A description of the AC and DC electrical power distribution systems is provided in the Bases for LCO 3.8.7, "Distribution Systems — Operating."

APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident and transient analyses in the UFSAR, Chapter 6 (Ref. 1) and Chapter 15 (Ref. 2), assume Engineered Safety Feature (ESF) systems are OPERABLE. The AC and DC electrical power distribution systems are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to ESF systems so that the fuel, Reactor Coolant System, and containment design limits are not exceeded.

The OPERABILITY of the AC and DC electrical power distribution system is consistent with the initial assumptions of the accident analyses and the requirements for the supported systems' OPERABILITY.

The OPERABILITY of the minimum AC and DC electrical power sources and associated power distribution subsystems during MODES 4 and 5, and during movement of irradiated fuel assemblies in the secondary containment ensures that:

a. The facility can be maintained in the shutdown or refueling condition for extended periods;

b. Sufficient instrumentation and control capability is available for monitoring and maintaining the unit status; and

c. Adequate power is provided to mitigate events postulated during shutdown, such as an inadvertent draindown of the vessel or a fuel handling accident.

The AC and DC electrical power distribution systems satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

(continued)

BASES (continued)

LCO

Various combinations of subsystems, equipment, and components are required OPERABLE by other LCOs, depending on the specific plant condition. Implicit in those requirements is the required OPERABILITY of necessary support features. This LCO explicitly requires energization of the portions of the electrical distribution system necessary to support OPERABILITY of Technical Specifications' required systems, equipment, and components — both specifically addressed by their own LCOs, and implicitly required by the definition of OPERABILITY.

Maintaining these portions of the distribution system energized ensures the availability of sufficient power to operate the plant in a safe manner to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents and inadvertent reactor vessel draindown).

APPLICABILITY

The AC and DC electrical power distribution subsystems required to be OPERABLE in MODES 4 and 5 and during movement of irradiated fuel assemblies in the secondary containment provide assurance that:

a. Systems to provide adequate coolant inventory makeup are available for the irradiated fuel in the core in case of an inadvertent draindown of the reactor vessel;

b. Systems needed to mitigate a fuel handling accident are available;

c. Systems necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and

d. Instrumentation and control capability is available for monitoring and maintaining the unit in a cold shutdown or refueling condition.

The AC and DC electrical power distribution subsystem requirements for MODES 1, 2, and 3 are covered in LCO 3.8.7.

(continued)

BASES (continued)

ACTIONS

LCO 3.0.3 is not applicable while in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Entering LCO 3.0.3 while in MODE 1, 2, or 3 would require the unit to be shutdown, but would not require immediate suspension of movement of irradiated fuel assemblies. The Note to the ACTIONS, "LCO 3.0.3 is not applicable," ensures that the actions for immediate suspension of irradiated fuel assembly movement are not postponed due to entry into LCO 3.0.3.

A.1, A.2.1, A.2.2, A.2.3, A.2.4, and A.2.5

Although redundant required features may require redundant divisions of electrical power distribution subsystems to be OPERABLE, one OPERABLE distribution subsystem division may be capable of supporting sufficient required features to allow continuation of CORE ALTERATIONS, fuel movement, and operations with a potential for draining the reactor vessel. By allowing the option to declare required features associated with an inoperable distribution subsystem inoperable, appropriate restrictions are implemented in accordance with the affected distribution subsystem LCO's Required Actions. In many instances, this option may involve undesired administrative efforts. Therefore, the allowance for sufficiently conservative actions is made (i.e., to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment and any activities that could result in inadvertent draining of the reactor vessel).

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability of the occurrence of postulated events. It is further required to immediately initiate action to restore the required AC and DC electrical power distribution subsystems and to continue this action until restoration is accomplished in order to provide the necessary power to the plant safety systems.

(continued)

BASES

ACTIONS

A.1, A.2.1, A.2.2, A.2.3, A.2.4, and A.2.5 (continued)

Notwithstanding performance of the above conservative Required Actions, a required residual heat removal — shutdown cooling (RHR-SDC) subsystem may be inoperable. In this case, Required Actions A.2.1 through A.2.4 do not adequately address the concerns relating to coolant circulation and heat removal. Pursuant to LCO 3.0.6, the RHR-SDC ACTIONS would not be entered. Therefore, Required Action A.2.5 is provided to direct declaring RHR-SDC inoperable, which results in taking the appropriate RHR-SDC ACTIONS.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required distribution subsystems should be completed as quickly as possible in order to minimize the time the plant safety systems may be without power.

SURVEILLANCE REQUIREMENTS

SR 3.8.8.1

This Surveillance verifies that the AC and DC electrical power distribution subsystem is functioning properly, with the buses energized. The verification of proper voltage availability on the buses ensures that the required power is readily available for motive as well as control functions for critical system loads connected to these buses. The 7 day Frequency takes into account the redundant capability of the electrical power distribution subsystems, as well as other indications available in the control room that alert the operator to subsystem malfunctions.

REFERENCES

1. UFSAR, Chapter 6.

2. UFSAR, Chapter 15.

ITS 3.8.1

A.1

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

A.C. SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

LCO 3.8.1 3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE: LA.1

qualified

LCO 3.8.1.a a. Two ~~physically independent~~ circuits between the offsite transmission network and the onsite Class 1E distribution system, and

LCO 3.8.1.b LCO 3.8.1.c b. ~~Separate and independent~~ diesel generators* ~~0, 1A, 2A and 1B~~ with: LA.1

SR 3.8.1.4 1. For diesel generator 0, 1A and 2A: A.2

a) A separate day fuel tank containing a minimum of 250 gallons of fuel.

A.3 moved to ITS 3.8.3

b) A separate fuel storage system containing a minimum of 31,000 gallons of fuel.

SR 3.8.1.4 2. For diesel generator 1B, a separate fuel storage tank and a day tank containing a minimum of 29,750 gallons of fuel. A.2

550 gallons of fuel M.2

~~3. A separate fuel transfer pump.~~ LA.1

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION: Add proposed Applicability Notes A.4 L.19

7 days L.18

ACTION A a. With one offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within ~~72 hours~~ or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. L.1

ACTION G

Add proposed Required Action A.3 2nd Completion Time

ACTION C b. With either the 0 or 1A diesel generator inoperable, demonstrate the OPERABILITY of the above required A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE

~~*See page 3/4 8-1(a).~~

A.5

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

Condition B

*For the purposes of completing maintenance, modification, and/or technical specification surveillance requirements, on the ~~0~~ Division 1 diesel generator and its support systems during a refuel outage, as part of pre-planned maintenance, modifications, and/or the surveillance program, the requirements of action statement b are modified to:

1. ~~Eliminate the requirement for performing technical specification surveillance requirements 4.8.1.1.1.a on each operable AC source, immediately and once per 8 hours thereafter, when the 0 diesel generator is declared inoperable.~~ A.5

Required Action B.4 Condition C

2. Allow an additional 96 hours in excess of the 72 hours allowed in action statement b for the 0 diesel generator to be inoperable. L.1

Add proposed Required Action B.4 2nd Completion Time

Provided that the following conditions are met:

Note to Condition B

A. Unit 2 is in operational condition 4 or 5 or defueled prior to taking the 0 diesel generator out of service.

Required Action B.2 1st Completion Time

B. Surveillance requirements 4.8.1.1.1a ~~and 4.8.1.1.2a.4~~ are successfully completed, for the offsite power sources ~~and the 1A and 2A diesel generators,~~ within ~~48 hours prior to removal of the 0 diesel generator from service~~ 1 hour. L.2 M.4

C. ~~No maintenance is performed on the offsite circuits or the 1A or 2A diesel generators, while the 0 diesel generator is inoperable.~~ L.2

Required Action B.2 2nd Completion Time

D. Technical specification requirement 4.8.1.1.1a is performed daily, while the 0 diesel generator is inoperable.

Required Action B.1

E. ~~The control circuit for the unit cross-tie circuit breakers between buses 142Y and 242Y are temporarily modified to allow the breakers to be closed with a diesel generator feeding the bus, while the 0 diesel generator is inoperable.~~

Verify the unit crosstie breakers between the unit and opposite unit Division 2 4.16 kV emergency buses are capable of being closed with a DG powering one of the buses. LA.8

~~The provisions of technical specification 3.0.4 are not applicable.~~ M.5

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued) Add proposed Required Action C.4 2nd Completion Time L.1 L.3

ACTION C

diesel generators, separately, by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours*, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated. Restore the diesel generator to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. ACTION G

Add proposed ACTION E Note A.7

c. With one offsite circuit of the above required A.C. sources and diesel generator 0 or 1A of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generators, separately, by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours*, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated. Restore at least one of the inoperable A.C. sources to OPERABLE status within 12 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. Restore at least two offsite circuits and diesel generators 0 and 1A to OPERABLE status within ~~72~~ ~~hours from the time of initial loss~~ or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Condition E; Required Actions A.1 and C.1; Required Action C.3.2; 24; L.4; L.3; Required Action C.3.1; Required Actions E.1 and E.2; ACTION G; Required Actions A.3 and C.4; L.1; ACTION G

Add proposed Required Actions A.3 2nd Completion Time and C.4 2nd Completion Time

ACTION C

d. With diesel generator 1B of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the offsite A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generators, separately, by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours*, unless the absence of any potential common mode failure for the remaining generator is demonstrated. Restore diesel generator 1B to OPERABLE status within 72 hours or declare the HPCS system inoperable ~~and take the ACTION required by specification 3.5.1.~~ L.3 L.1

Applicability Note 1

Add proposed Required Action C.4 2nd Completion Time

A.8

L.3

*This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY. The provisions of Specification 3.0.2 are not applicable.

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITIONS FOR OPERATION (Continued)

M.6

Add proposed Required Action G.2

ACTION (Continued)

ACTION D e. With both of the above required offsite circuits inoperable, restore at least one offsite circuit to OPERABLE status within 24 hours, or
ACTION G ~~be in at least HOT SHUTDOWN within the next 12 hours.~~ With only one
ACTION A ~~offsite circuit restored to OPERABLE status~~, restore at least two offsite circuits to OPERABLE status within 72 ~~hours from the time of initial loss~~ or be in at least HOT SHUTDOWN within the next 12 hours
ACTION G ~~and in COLD~~ SHUTDOWN within the following 24 hours. L.1

ACTION F f. With diesel generators 0 and 1A of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of
ACTIONS B and C the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and Surveillance Requirement 4.8.1.1.2.a.4 for the 1B and 2A diesel generators, separately, within 8 hours*. 24 L.4 L.3
ACTION F Restore at least one of the inoperable diesel generators 0 or 1A to OPERABLE status within 2 hours, or be in at least HOT SHUTDOWN within the next 12 hours and
ACTION G in COLD SHUTDOWN within the following 24 hours. Restore both diesel
ACTIONS B and C generators 0 and 1A to OPERABLE status within 72 ~~hours, from the time of initial loss~~, or be in at least HOT SHUTDOWN within the next
ACTION G ~~12 hours and in COLD~~ SHUTDOWN within the following 24 hours. L.1

ACTION C g. With diesel generator 2A of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the 2A diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned maintenance or testing, demonstrate the OPERABILITY of the ~~1A~~ (required OPERABLE) diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours*, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated. M7 L.3

Applicability Note 2 Restore the inoperable diesel generator 2A to OPERABLE status within 72 hours or declare (associated required equipment) ~~standby gas treatment system subsystem B, Unit 2 drywell and suppression chamber hydrogen recombiner system, and control room and auxiliary electric equipment room emergency filtration system train B~~ inoperable, ~~and take the ACTION required by specifications 3.6.5.3, 3.6.6.1, and 3.7.2.~~ ~~Continued performance of Surveillance Requirement 4.8.1.1.1.a is not required provided the above systems are declared inoperable and the action of their respective specifications is taken.~~ LA.3 A.8 A.4 LA.3

~~*This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY. The provisions of Specification 3.0.2 are not applicable.~~ L.3

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITIONS FOR OPERATION (Continued)

ACTION (Continued)

M.8

Action E h. With one offsite circuit of the above required A.C. electrical power sources and diesel generator 1B inoperable, ~~apply the requirements of ACTION a and d specified above.~~

Action F i. With either diesel generators 0 or 1A inoperable and diesel generator 1B inoperable, apply the requirements of ACTION b and d specified above.

A.9

Actions A and C j. With one offsite circuit of the above required A.C. electrical power sources and diesel generator 2A inoperable, apply the requirements of ACTION a and g specified above.

Action C k. With diesel generator 1B and diesel generator 2A inoperable, apply the requirements of ACTION d and g specified above.

Action C l. With diesel generator 0 and diesel generator 2A inoperable, apply the requirements of ACTION b and g specified above.

Add proposed ACTION H — A.10

Add proposed 2nd Condition of ACTION F — L.5

A.1

A.18

Add proposed Surveillance Table Notes 1 and 2

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be: LD.1

SR 3.8.1.1 a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and L.6

SR 3.8.1.8 b. Demonstrated OPERABLE at least once per ~~18~~ 24 months ~~during shutdown~~ by manually transferring unit power supply from the normal circuit to the alternate circuit.

4.8.1.1.2 Each of the above required diesel generators shall be demonstrated OPERABLE:*

a. At least once per 31 days ~~on a STAGGERED TEST BASIS~~ by: L.7

SR 3.8.1.4 1. Verifying the fuel level in the day fuel tank. Moved to ITS 3.8.3 A.3

2. Verifying the fuel level in the fuel storage tank.

SR 3.8.1.6 3. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day fuel tank. once per 92 days L.8

SR 3.8.1.2 SR 3.8.1.7 4. Achieves a generator voltage ≥ 4010 V and a frequency ≥ 58.8 Hz ~~Verifying the diesel starts from ambient condition and accelerates to 900 rpm +5%, -2%~~ in less than or equal to 13 seconds**. ~~The~~ generator voltage and frequency shall be 4160 ±150 volts and 60 ~~+ 3.0,~~ ± 1.2 Hz ~~within 13 seconds** after the start signal.~~ Achieves a steady state L.9 A.11 Add proposed SR 3.8.1.2 Note 3 and SR 3.8.1.7 Note 2

SR 3.8.1.3 & SR 3.8.1.3 Note 1 5. Verifying the diesel generator is synchronized, and then loaded to 2400 kW to 2600 kW*** in accordance with the manufacturer's recommendations, and operates with this load for at least 60 minutes.

Add proposed SR 3.8.1.3 Notes 3 and 4 M.9

Add proposed SR 3.8.1.3 Note 5 A.11

SR 3.8.1.2 Note 1 & SR 3.8.1.7 Note 1 *All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period ~~as recommended by the manufacturer~~. LA.4

SR 3.8.1.7 Frequency SR 3.8.1.2 Note 1 **Surveillance testing to verify the diesel generator start (13 second) time from ambient conditions shall be performed at least once per 184 days. All other engine starts performed for the purpose of meeting these surveillance requirements may be conducted in accordance with warmup and loading procedures~~, as recommended by the manufacturer, in order to minimize mechanical stress and wear on the diesel generator caused by fast starting of the diesel generator~~. LA.4

SR 3.8.1.3 Note 2 ***Transients, outside of this load band, do not invalidate the surveillance tests.

A.1

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS

6. ~~Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.~~ L.10

Moved to ITS 3.8.3

7. Verifying the pressure in required diesel generator air start receivers to be greater than or equal to 200 psig. A.3

SR 3.8.1.5 b. At least once per 31 days ~~and after each operation of the diesel where the period of operation was greater than or equal to 1 hour~~ by checking for and removing accumulated water from the day fuel tanks. L.11

Moved to ITS Section 5.5

c. By sampling and analyzing stored and new fuel oil in accordance with the following: A.3

1. At least once per 92 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained and tested in accordance with the applicable ASTM Standards has:

   a) A water and sediment content within applicable ASTM limits.

   b) A kinematic viscosity at 40°C within applicable ASTM limits.

2. At least every 31 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained in accordance with the applicable ASTM Standard has a total particulate contamination of less than 10 mg/l when tested in accordance with the applicable ASTM Standard.

d. At least once per ~~18~~ 24 months ~~during shutdown~~ by: L.6 LD.1

1. (Not used). A.12

SR 3.8.1.9 2. Verifying the diesel generator its associated single largest post-accident load ~~capability~~® ~~to reject a load of greater than or equal to 1190 kW for diesel generator 0, greater than or equal to 638 kW for diesel generators 1A and 2A, and greater than or equal to 2421 kW for diesel generator 1B~~ while maintaining engine speed less than or equal to 75% of the difference between nominal speed and the overspeed trip setpoint or 15% above nominal, whichever is less. Add proposed SR 3.8.1.9 NOTE LA.5 A.6 A.11

Add proposed SR 3.8.1.10 NOTE

SR 3.8.1.10 3. Verifying the diesel generator capability® to reject a load of 2600 kW without tripping. The generator voltage shall not exceed 5000 volts during and following the load rejection. A.12

SR 3.8.1.11 4. Simulating or actual a loss of offsite power* by itself, and: L.12

SR 3.8.1.11 Note *All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period. ~~as recommended by the manufacturer~~ LA.4

A.1

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.8.1.11 a) For Divisions 1 and 2 and for Unit 2 Division 2:

1) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 13 seconds, energizes the auto-connected loads and operates for greater than or equal to 5 minutes while its generator is so loaded. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 150 volts and 60 ± 1.2 Hz during this test.

b) For Division 3:

1) Verifying de-energization of the emergency bus.

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency bus with its loads within 13 seconds and operates for greater than or equal to 5 minutes while its generator is so loaded. After energization, the steady-state voltage and frequency of the emergency bus shall be maintained at 4160 ± 150 volts and 60 ± 1.2 Hz during this test. M.1

SR 3.8.1.12 5. Verifying that on an ECCS actuation test or actual signal, without loss of offsite power, diesel generators 0, 1A, and 1B start* on the auto-start signal and operate on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be 4160 ~~+ 416~~ -150 volts and 60 ~~+ 3.0~~ -1.2 Hz within 13 seconds after the auto-start signal; the steady-state generator voltage and frequency shall be maintained within ~~these~~ 4160 ± 150 and 60 ± 1.2 limits during this test. L.12 L.9

SR 3.8.1.19 6. Simulating a loss of offsite power in conjunction with an Actual or ECCS actuation test signal,* and: L.12

a) For Divisions 1 and 2:

1) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

SR 3.8.1.12 Note and SR 3.8.1.19 Note: *All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, ~~as recommended by the manufacturer~~. LA.4

A.1

SR 3.8.1.19

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 13 seconds, energizes the auto-connected emergency loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained at 4160 ±416 volts and 60 ±1.2 Hz during this test. LA.6 150 M.11

b) For Division 3:

1) Verifying de-energization of the emergency bus.

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency bus with its loads within 13 seconds and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency bus shall be maintained at 4160 ±416 volts and 60 ±1.2 Hz during this test. M.1 150 M.11

SR 3.8.1.13

7. Verifying that all diesel generator 0, 1A, and 1B automatic trips except the following are automatically bypassed on an actual or simulated ECCS actuation signal: L.12

a) For Divisions 1 and 2 - engine overspeed, generator differential current, ~~and emergency manual stop~~. A.13 A.11 A.12

b) For Division 3 - engine overspeed, generator differential current, ~~and emergency manual stop~~.

SR 3.8.1.14

Add proposed SR 3.8.1.14 Note 3

Add power factor requirement M.10

8. *Verifying the diesel generator operates* for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 2860 kW and during the remaining 22 hours of this test, the diesel generator shall be loaded to 2400 kW to 2600 kW.*** ~~The generator voltage and frequency shall be 4160 +420, -150 volts and 60 +3.0, -1.2 Hz within 13 seconds after the start signal; the steady state~~ L.13

A.12

~~*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.~~

SR 3.8.1.14 Note 1, SR 3.8.1.15 Note 1 ***Transients, outside of this load band, do not invalidate the surveillance tests.

A.1

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

Add proposed SR 3.8.1.15 Note 3 — A.11

~~generator voltage and frequency shall be maintained within these limits during this test.~~ L.13 Within 5 minutes after completing this 24 hour test, perform Surveillance Requirement 4.8.1.1.2.a.4.** SR 3.8.1.15

A.12

9. ~~Verifying* that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 2860 kW.~~ LA.7

SR 3.8.1.16

10. Verifying the diesel generator's capability* to: A.12

a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,

b) Transfer its loads to the offsite power source, and

c) Be restored to its standby status.

SR 3.8.1.17

11. Verifying that with diesel generator 0, 1A, and 1B operating* in a test mode and connected to its bus: A.12

a) For Divisions 1 and 2, that a actual or simulated ECCS actuation signal overrides the test mode by returning the diesel generator to standby operation. L.12

b) For Division 3, that a actual or simulated trip of the diesel generator overcurrent relay trips the SAT feed breaker to bus 143 and that the diesel generator continues to supply normal bus loads. L.12

SR 3.8.1.18

12. Verifying that the ~~automatic load sequence timer~~ time delay relay is OPERABLE with the interval between each load block within ±10% of its design interval for diesel generators 0 and 1A. A.14

13. ~~Verifying that the following diesel generator lockout features prevent diesel generator operation only when required:~~ L.14

LA.4

SR 3.8.1.15 Note 2 *All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period. ~~as recommended by the manufacturer.~~

SR 3.8.1.15 Note 1 **If Surveillance Requirement 4.8.1.1.2.a.4 is not satisfactorily completed, it is not necessary to repeat the preceding 24 hour test. Instead, the diesel generator may be operated at ≥ 2400 kW and ≤ 2600 kW for 2 hours ~~or until operating temperature has stabilized.~~ Momentary transients below the load limit do not invalidate the test. A.15

A.1

a) ~~Generator underfrequency.~~
b) ~~Low lube oil pressure.~~
c) ~~High jacket cooling temperature.~~
d) ~~Generator reverse power.~~
e) ~~Generator overcurrent.~~
f) ~~Generator loss of field.~~
g) ~~Engine cranking lockout.~~

L.14

L.15

SR 3.8.1.20 e. At least once per 10 years ~~or after any modifications which could affect diesel generator interdependence~~ by starting diesel generators 0, 1A, and 1B simultaneously, ~~during shutdown~~ and verifying that all three diesel generators accelerate to ~~900 rpm ± 5, -2%~~ in less than or equal to 13 seconds. L.16

Add proposed voltage limit

≥ 58.8 Hz

L.9

M.11

f. At least once per 10 years by: A.3

1. Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite or equivalent solution, and

2. Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND, of the ASME Code in accordance with ASME Code Section 11, Article IWD-5000.

Moved to ITS 3.8.3

4.8.1.1.3 Reports - (Not used).

Add proposed SR 3.8.1.21 A.18

SR 3.8.1.20 Note All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period ~~as recommended by the manufacturer~~. LA.4

3/4.0 APPLICABILITY

A.1

LIMITING CONDITION FOR OPERATION

3.0.1 Compliance with the Limiting Conditions for Operation contained in the succeeding Specifications is required during the OPERATIONAL CONDITIONS or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met, except as provided in Specification 3.0.6.

3.0.2 Noncompliance with a Specification shall exist when the requirements of the Limiting Condition for Operation and associated ACTION requirements are not met within the specified time intervals, except as provided in Specification 3.0.6. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

3.0.3 When a Limiting Condition for Operation is not met, except as provided in the associated ACTION requirements, within 1 hour action shall be initiated to place the unit in an OPERATIONAL CONDITION in which the Specification does not apply by placing it, as applicable, in:

1. At least STARTUP within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual Specifications.

This specification is not applicable in OPERATIONAL CONDITION 4 or 5.

3.0.4 Entry into an OPERATIONAL CONDITION or other specified CONDITION shall not be made when the conditions for the Limiting Conditions for Operations are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL CONDITION may be made in accordance with the ACTION requirements when conformance to them permits continued operation of the facility for an unlimited period of time. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual Specifications.

(See ITS 3.0)

Required Actions A.2, B.2, C.2, and D.1

3.0.5 When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied, within 2 hours ~~action shall be initiated to place the unit in an OPERATIONAL CONDITION in which the applicable Limiting Condition for Operation does not apply by placing it, as applicable, in:~~

~~1. At least STARTUP within the next 6 hours,~~
~~2. At least HOT SHUTDOWN within the following 6 hours, and~~
~~3. At least COLD SHUTDOWN within the subsequent 24 hours.~~

~~This specification is not applicable in OPERATIONAL CONDITION 4 or 5.~~ A.16

24 hours for proposed Required Action A.2
12 hours for proposed Required Action D.1
4 hours for proposed Required Actions B.2 and C.2

L.17

3.0.6 Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to Specification 3.0.1 and 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

declare required features inoperable. L.17

(See ITS 3.0)

ITS 3.8.1

ELECTRICAL POWER SYSTEMS

A.1

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

A. C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 The following A.C. distribution system electrical divisions shall be OPERABLE and energized:

a. Division 1, consisting of;

1. 4160 volt bus 141Y.
2. 480 volt buses 135X and 135Y.
3. 480 volt MCCs 135X-1, 135X-2, 135X-3, 135Y-1 and 135Y-2.
4. 120 volt A.C. distribution panels in 480 volt MCCs 135X-1, 135X-2, 135X-3 and 135Y-1.

See ITS 3.8.7

b. Division 2, consisting of;

1. 4160 volt bus 142Y.
2. 480 volt buses 136X and 136Y.
3. 480 volt MCCs 136X-1, 136X-2, 136X-3, 136Y-1 and 136Y-2.
4. 120 volt A.C. distribution panels in 480 volt MCCs 136X-1, 136X-2, 136X-3 and 136Y-2.

c. Division 3, consisting of;

1. 4160 volt bus 143.
2. 480 volt MCC 143-1.
3. 120 volt A.C. distribution panels in 480 volt MCC 143-1.

LA.7

LCO 3.8.1.a

d. Unit 2 Division 1, ~~consisting of;~~

~~1.~~ 4160 volt bus 241Y.
2. Breaker 2414 OPERABLE or closed.

LA.1

e. Unit 2 Division 2, consisting of;

1. 4160 volt bus 242Y.
2. 480 volt buses 236X and 236Y.
3. 480 volt MCCs 236X-1, 236X-2, 236X-3, 236Y-1, and 236Y-2.
4. 120 volt A.C. distribution panels in 480 volt MCCs 236X-1, 236X-2, 236X-3, and 236Y-2.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

See ITS 3.8.7

Page 13 of 28

ITS 3.8.1

A.1

LIMITING CONDITION FOR OPERATION (Continued)

ACTION:

a. With either Division 1 or Division 2 of the above required A.C. distribution system inoperable or not energized, restore the inoperable division to OPERABLE and energized status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours

b. With Division 3 of the above required A.C. distribution system inoperable or not energized, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.1.

See ITS 3.8.7

ACTION A

c. With Unit 2 Division 1 or Unit 2 Division 2 of the above required A.C. distribution systems inoperable or not energized, restore the inoperable division to OPERABLE and energized 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.

ACTION G

A.17

d. With both Unit 2 Division 1 and Unit 2 Division 2 of the above required A.C. distribution systems inoperable or not energized, restore at least one of the inoperable A.C. distribution systems to OPERABLE status within 8 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 The above required A.C. distribution system electrical divisions shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/panels.

see ITS 3.8.7

ITS 3.8.1

A.1

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

A.C. SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

LCO 3.8.1 3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

qualified LA.1

LCO 3.8.1.a a. Two ~~physically independent~~ circuits between the offsite transmission network and the onsite Class 1E distribution system, and LA.1

LCO 3.8.1.b b. ~~Separate and independent~~ diesel generators* 0, ~~1A~~, 2A ~~and~~ 2B with:

LCO 3.8.1.c

SR 3.8.1.4 1. For diesel generator 0, 1A and 2A:

a) A separate day fuel tank containing a minimum of 250 gallons of fuel. A.2

b) A separate fuel storage system containing a minimum of 31,000 gallons of fuel. A.3 moved to ITS 3.8.3

SR 3.8.1.4 2. For diesel generator 2B, a separate fuel storage tank and a day tank containing a minimum of 29,750 gallons of fuel. A.2

550 gallons of fuel M.2

3. ~~A separate fuel transfer pump.~~ LA.1

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3. A.4 L.19

ACTION: Add proposed Applicability Notes

7 days L.18

ACTION A a. With one offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within ~~72 hours~~ or be in at least

ACTION G HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. L.1

Add proposed Required Action A.3 2nd Completion Time

ACTION C b. With either the 0 or 2A diesel generator inoperable, demonstrate the OPERABILITY of the above required A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE

~~*See page 3/4 8-1(a).~~ A.5

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

Division 1

Condition B *For the purposes of completing maintenance, modification, and/or technical specification surveillance requirements, on the ~~0~~ diesel generator and its support systems during a refuel outage, as part of pre-planned maintenance, modifications, and/or the surveillance program, the requirements of action statement b are modified to:

1. Eliminate the requirement for performing technical specification surveillance requirements 4.8.1.1.1.a on each operable AC source, immediately and once per 8 hours thereafter, when the 0 diesel generator is declared inoperable. A.5

Required Action B.4 Condition C 2. Allow an additional 96 hours in excess of the 72 hours allowed in action statement b for the 0 diesel generator to be inoperable. L.1

Add proposed Required Action B.4 2nd Completion Time

Provided that the following conditions are met:

Note to Condition B A. Unit 1 is in operational condition 4 or 5 or defueled prior to taking the 0 diesel generator out of service.

Required Action B.2 1st Completion Time B. Surveillance requirements 4.8.1.1.1a ~~and 4.8.1.1.2a.4~~ are successfully completed, for the offsite power sources ~~and the 1A and 2A diesel generators,~~ within ~~48 hours prior to removal of the 0 diesel generator from service.~~ 1 hour L.2 M.4

C. No maintenance is performed on the offsite circuits or the 1A or 2A diesel generators, while the 0 diesel generator is inoperable. L.2

Required Action B.2 2nd Completion Time D. Technical specification requirement 4.8.1.1.1a is performed daily, while the 0 diesel generator is inoperable.

Required Action B.1 E. ~~The control circuit for the unit cross-tie circuit breakers between buses 142Y and 242Y are temporarily modified to allow the breakers to be closed with a diesel generator feeding the bus, while the 0 diesel generator is inoperable.~~

Verify the unit crosstie breakers between the unit and opposite unit Division 2 4.16 kV emergency buses are capable of being closed with a DG powering one of the buses. LA 8

The provisions of technical specification 3.0.4 are not applicable. M.5

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

Add proposed Required Action C.4 2nd Completion Time — L.1 — L.3

ACTION C — diesel generators, separately, by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours*, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated. Restore the diesel generator to OPERABLE status within 72 hours ~~or be in at least HOT SHUTDOWN within the next 12~~
ACTION G — hours ~~and in COLD SHUTDOWN within the following 24 hours.~~

Add proposed ACTION E Note — A.7

c. Condition E — With one offsite circuit of the above required A.C. sources and diesel generator 0 or 2A of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining
Required Actions A.1 and C.1 — A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the L.4 24
Required Action C.3.2 — ~~diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable~~ component, or preplanned maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generators, separately, by performing L.3 Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours*, unless the
Required Action C.3.1 — absence of any potential common mode failure for the remaining diesel generator is demonstrated. Restore at least one of the
Required Actions E.1 and E.2 — inoperable A.C. sources to OPERABLE status within 12 hours or be in
ACTION G — at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. Restore at least two offsite L.1
Required Actions A.3 and C.4 — circuits and diesel generators 0 and 2A to OPERABLE status within 72 ~~hours from the time of initial loss~~ or be in at least HOT SHUTDOWN
ACTION G — within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Add proposed Required Actions A.3 3rd Completion Time and C.4 2nd Completion Time

d. ACTION C — With diesel generator 2B of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the offsite A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generators, separately, by performing L.3 Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours*, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated. Restore diesel generator 2B to OPERABLE status within 72 hours or declare the HPCS system
Applicability Note 1 — inoperable ~~and take the ACTION required by specification 3.5.1.~~ A8

L.3

*~~This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY. The provisions of Specification 3.0.2 are not applicable.~~

Add proposed Required Action C.4 2nd Completion Time — L.1

ITS 3.8.1

A.1

M.6

LIMITING CONDITION FOR OPERATION (Continued)

Add proposed Required Action G.2

ACTION (Continued)

ACTION D e. With both of the above required offsite circuits inoperable, restore at least one offsite circuit to OPERABLE status within 24 hours, or be in at least HOT SHUTDOWN within the next 12 hours. ACTION G With only one offsite circuit restored to OPERABLE status, restore ACTION A at least two offsite circuits to OPERABLE status within ~~72 hours from the time of initial loss~~ or be in at least HOT SHUTDOWN ACTION G within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. L.1

ACTION F f. With diesel generators 0 and 2A of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement ACTIONS B and C 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and Surveillance Requirement 4.8.1.1.2.a.4 for the 2B and 1A diesel generators, separately, within ~~8~~ 24 hours*. Restore at least one of ACTION F the inoperable diesel generators 0 or 2A to OPERABLE status within 2 hours, or be in at least HOT SHUTDOWN within the next 12 hours and ACTION G in COLD SHUTDOWN within the following 24 hours. Restore both diesel ACTIONS B and C generators 0 and 2A to OPERABLE status within 72 hours, ~~from the time of initial loss~~ or be in at least HOT SHUTDOWN within the next ACTION G 12 hours and in COLD SHUTDOWN within the following 24 hours. L.4 L.3 L.1

ACTION C g. With diesel generator 1A of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the 1A diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned maintenance or testing, demonstrate the OPERABILITY of the ~~2A~~ required OPERABLE diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours*, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated. Restore the inoperable diesel generator 1A to OPERABLE status within 72 hours or declare ~~standby gas treatment system subsystem A, Unit 1 drywell and suppression chamber hydrogen recombiner system, and control room and auxiliary electric equipment room emergency filtration system train A~~ associated required equipment inoperable, ~~and take the ACTION required by specifications 3.6.5.3, 3.6.6.1, and 3.7.2. Continued performance of Surveillance Requirement 4.8.1.1.1.a is not required provided the above systems are declared inoperable and the action of their respective specifications is taken.~~ M.7 L.3 LA.3 A.8 A.4 LA.3

Applicability Note 2

~~*This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY. The provisions of Specification 3.0.2 are not applicable.~~ L.3

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A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITIONS FOR OPERATION (Continued)

ACTION (Continued)

M.8

ACTION E h. With one offsite circuit of the above required A.C. electrical power sources and diesel generator 2B inoperable, ~~apply the requirements of ACTION a and d specified above.~~

Action F i. With either diesel generators 0 or 2A inoperable and diesel generator 2B inoperable, apply the requirements of ACTION b and d specified above.

A.9

Actions A and C j. With one offsite circuit of the above required A.C. electrical power sources and diesel generator 1A inoperable, apply the requirements of ACTION a and g specified above.

Action C k. With diesel generator 2B and diesel generator 1A inoperable, apply the requirements of ACTION d and g specified above.

Action C l. With diesel generator 0 and diesel generator 1A inoperable, apply the requirements of ACTION b and g specified above.

Add proposed ACTION H — A.10

Add proposed 2nd Condition of ACTION F — L.5

A.1

A.18

Add proposed Surveillance Table Notes 1 and 2

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

LD.1

SR 3.8.1.1 a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

L.6

SR 3.8.1.8 b. Demonstrated OPERABLE at least once per ~~18~~ 24 months ~~during shutdown~~ by manually transferring unit power supply from the normal circuit to the alternate circuit.

4.8.1.1.2 Each of the above required diesel generators shall be demonstrated OPERABLE:*

L.7

a. At least once per 31 days ~~on a STAGGERED TEST BASIS~~ by:

SR 3.8.1.4 1. Verifying the fuel level in the day fuel tank. Moved to ITS 3.8.3

2. Verifying the fuel level in the fuel storage tank. A.3

SR 3.8.1.6 3. Verifying the fuel transfer pump starts and transfers fuel from ~~the storage system to the day fuel tank~~ once per 92 days L8

Achieves a generator voltage of 2400 V & frequency ≥ 58.8 Hz

SR 3.8.1.2 SR 3.8.1.7 4. ~~Verifying the diesel starts from ambient condition and accelerates to 900 rpm + 5%, -2%~~ in less than or equal to 13 seconds. ~~The~~ generator voltage and frequency shall be 4160 ±150 volts and 60 ~~± 3.0~~ ± 1.2 Hz ~~within 13 seconds** after the start signal~~. Achieves a steady state

L.9 A.11

Add proposed SR 3.8.1.2 Note 3 and SR 3.8.1.7 Note 2

SR 3.8.1.3 & SR 3.8.1.3 Note 1 5. Verifying the diesel generator is synchronized, and then loaded to 2400 kW to 2600 kW*** in accordance with the manufacturer's recommendations, and operates with this load for at least 60 minutes.

Add proposed SR 3.8.1.3 Notes 3 and 4

M.9

Add proposed SR 3.8.1.3 Note 5

A.11

SR 3.8.1.2 Note 4 SR 3.8.1.7 Note 1 *All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period ~~as recommended by the manufacturer~~. LA.4

SR 3.8.1.7 Frequency SR 3.8.1.2 Note 1 **Surveillance testing to verify the diesel generator start (13 second) time from ambient conditions shall be performed at least once per 184 days. All other engine starts performed for the purpose of meeting these surveillance requirements may be conducted in accordance with warmup and loading procedures, as recommended by the manufacturer, ~~in order to minimize mechanical stress and wear on the diesel generator caused by fast starting of the diesel generator~~. LA.4

SR 3.8.1.3 Note 2 ***Transients, outside of this load band, do not invalidate the surveillance tests.

SURVEILLANCE REQUIREMENTS

6. ~~Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.~~ L.10

Moved to ITS 3.8.3 7. Verifying the pressure in required diesel generator air start receivers to be greater than or equal to 200 psig. A.3

SR 3.8.1.5 b. At least once per 31 days ~~and after each operation of the diesel where the period of operation was greater than or equal to 1 hour~~ by checking for and removing accumulated water from the day fuel tanks. L.11 A.3

Moved to ITS Section 5.5

c. By sampling and analyzing stored and new fuel oil in accordance with the following:

1. At least once per 92 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained and tested in accordance with the applicable ASTM Standards has:

   a) A water and sediment content within applicable ASTM limits.

   b) A kinematic viscosity at 40°C within applicable ASTM limits.

2. At least every 31 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained in accordance with the applicable ASTM Standard has a total particulate contamination of less than 10 mg/l when tested in accordance with the applicable ASTM Standard.

d. At least once per ~~18~~ 24 months ~~during shutdown~~ by: L.6 LD.1

1. (Not Used).

SR 3.8.1.9 2. Verifying the diesel generator capability its associated single largest post-accident load to reject a load of greater than or equal to ~~1190 kW for diesel generator 0, greater than or equal to 638 kW for diesel generators 1A and 2A, and greater than or equal to 2421 kW for diesel generator 2B~~ while ~~maintaining engine speed~~ less than or equal to 75% of the difference between nominal speed and the overspeed trip setpoint or 15% above nominal, whichever is less. A.12 LA.5 A.6 A.11

Add proposed SR 3.8.1.9 NOTE

Add proposed SR 3.8.1.10 NOTE

SR 3.8.1.10 3. Verifying the diesel generator capability ~~to reject a load of~~ 2600 kW without tripping. The generator voltage shall not exceed 5000 volts during and following the load rejection. A.12

SR 3.8.1.11 4. Simulating or actual a loss of offsite power* by itself, and: L.12

SR 3.8.1.11 Note *All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, ~~as recommended by the manufacturer~~. LA.4

A.1

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.8.1.11 a) For Divisions 1 and 2 and for Unit 1 Division 2:

1) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 13 seconds, energizes the auto-connected loads and operates for greater than or equal to 5 minutes while its generator is so loaded. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 150 volts and 60 ± 1.2 Hz during this test.

b) For Division 3:

1) Verifying de-energization of the emergency bus.

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency bus with its loads within 13 seconds and operates for greater than or equal to 5 minutes while its generator is so loaded. After energization, the steady-state voltage and frequency of the emergency bus shall be maintained at 4160 ± 150 volts and 60 ± 1.2 Hz during this test. M.1

or actual L.12

SR 3.8.1.12 5. Verifying that on an ECCS actuation test signal, without loss of offsite power, diesel generators 0, 2A, and 2B start* on the auto-start signal and operate on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be 4160 ~~+ 416~~ -150 volts and 60 ~~+ 3.0~~, -1.2 Hz within 13 seconds after the auto-start signal; the steady-state generator voltage and frequency shall be maintained within ~~these~~ limits during this test. 4160 ± 150 and 60 ± 1.2 L.9

SR 3.8.1.19 6. Simulating a loss of offsite power in conjunction with an ECCS actuation test signal,* and:

Actual or L.12

a) For Divisions 1 and 2:

1) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

SR 3.8.1.12 Note and SR 3.8.1.19 Note: *All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, ~~as recommended by the manufacturer~~. LA.4

A.1

SR 3.8.1.19

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 13 seconds, energizes the auto-connected emergency loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained at 4160 ±416 volts and 60 ±1.2 Hz during this test. LA.6

b) For Division 3:

1) Verifying de-energization of the emergency bus.

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency bus with its loads within 13 seconds and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency bus shall be maintained at 4160 ±416 volts and 60 ±1.2 Hz during this test. M.1

SR 3.8.1.13

7. Verifying that all diesel generator 0, 2A, and 2B automatic ~~trips~~ except the following are automatically bypassed on an actual or simulated ECCS actuation signal: L.12

a) For Divisions 1 and 2 - engine overspeed, generator differential current, ~~and emergency manual stop~~. A.13 A.11

b) For Division 3 - engine overspeed, generator differential current, ~~and emergency manual stop~~. A.12

Add proposed SR 3.8.1.14 Note 3

Add power factor requirement

SR 3.8.1.14

8. *Verifying the diesel generator operates** for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 2860 kW and during the remaining 22 hours of this test, the diesel generator shall be loaded to 2400 kW to 2600 kW.*** ~~The generator voltage and frequency shall be 4160 +420, -150 volts and 60 +3.0, -1.2 Hz within 13 seconds after the start signal; the steady-state~~ M.10 L.13

A.12

~~*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.~~

SR 3.8.1.14 Note 1 SR 3.8.1.15 Note 1

***Transients, outside of this load band, do not invalidate the surveillance tests.

A.1

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

Add proposed SR 3.8.1.15 Note 3 A.11

~~generator voltage and frequency shall be maintained within these limits during this test.~~ Within 5 minutes after completing this 24 hour test, perform Surveillance Requirement 4.8.1.1.2.a.4.** L.13

SR 3.8.1.15 A.12

9. ~~Verifying* that the auto-connected loads to each diesel generator do not exceed the 2000-hour rating of 2860 kW.~~ LA.7

SR 3.8.1.16

10. Verifying the diesel generator's capability~~*~~ to: A.12

a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,

b) Transfer its loads to the offsite power source, and

c) Be restored to its standby status.

SR 3.8.1.17

11. Verifying that with diesel generator 0, 2A, and 2B operating~~*~~ in a test mode and connected to its bus: A.12

a) For Divisions 1 and 2, that a actual or simulated ECCS actuation signal overrides the test mode by returning the diesel generator to standby operation. L.12

b) For Division 3, that a actual or simulated trip of the diesel generator overcurrent relay trips the SAT feed breaker to bus 243 and that the diesel generator continues to supply normal bus loads.

SR 3.8.1.18

12. Verifying that the ~~automatic load sequence timer~~ time delay relay is OPERABLE with the interval between each load block within ±10% of its design interval for diesel generators 0 and 2A. A.14

~~13. Verifying that the following diesel generator lockout features prevent diesel generator operation only when required:~~ L.14

SR3.8.1.15 Note 2

*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, ~~as recommended by the manufacturer.~~ LA.4

SR 3.8.1.15 Note 1

**If Surveillance Requirement 4.8.1.1.2.a.4 is not satisfactorily completed, it is not necessary to repeat the preceding 24 hour test. Instead, the diesel generator may be operated at ~~2600 kW~~ ≥ 2400 kW and ≤ for 2 hours ~~or until operating temperature has stabilized.~~ Momentary transients below the load limit do not invalidate the test. A.15

A.1

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

~~a) Generator underfrequency.~~
~~b) Low lube oil pressure.~~
~~c) High jacket cooling temperature.~~
~~d) Generator reverse power.~~
~~e) Generator overcurrent.~~
~~f) Generator loss of field.~~
~~g) Engine cranking lockout.~~

L.14

L.15

SR 3.8.1.20 e. At least once per 10 years ~~or after any modifications which could affect diesel generator interdependence~~ by starting diesel generators 0, 2A, and 2B simultaneously*, ~~during shutdown~~, and verifying that all three diesel generators accelerate to ~~900 rpm + 5, -2%~~ ≥ 58.8 Hz in less than or equal to 13 seconds. Add proposed voltage limit

L.16 L.9 M.11

~~f. At least once per 10 years by:~~

~~1. Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite or equivalent solution, and~~

~~2. Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND, of the ASME Code in accordance with ASME Code Section 11, Article IWD-5000.~~

A.3

Moved to ITS 3.8.3

4.8.1.1.3 Reports - (Not Used).

Add proposed SR 3.8.1.21 A.18

SR 3.8.1.20 Note *All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, ~~as recommended by the manufacturer~~.

LA.4

3/4.0 APPLICABILITY

A.1

LIMITING CONDITION FOR OPERATION

3.0.1 Compliance with the Limiting Conditions for Operation contained in the succeeding Specifications is required during the OPERATIONAL CONDITIONS or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met, except as provided in Specification 3.0.6.

3.0.2 Noncompliance with a Specification shall exist when the requirements of the Limiting Condition for Operation and associated ACTION requirements are not met within the specified time intervals, except as provided in Specification 3.0.6. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

3.0.3 When a Limiting Condition for Operation is not met, except as provided in the associated ACTION requirements, within 1 hour action shall be initiated to place the unit in an OPERATIONAL CONDITION in which the Specification does not apply by placing it, as applicable, in:

1. At least STARTUP within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual Specifications.

This specification is not applicable in OPERATIONAL CONDITION 4 or 5.

3.0.4 Entry into an OPERATIONAL CONDITION or other specified CONDITION shall not be made when the conditions for the Limiting Conditions for Operations are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL CONDITION may be made in accordance with the ACTION requirements when conformance to them permits continued operation of the facility for an unlimited period of time. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual Specifications.

(See ITS 3.0)

Required Actions A.2, B.2, C.2, and D.1

3.0.5 When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. ~~Unless both conditions (1) and (2) are satisfied, within 2 hours action shall be initiated to place the unit in an OPERATIONAL CONDITION in which the applicable Limiting Condition for Operation does not apply by placing it, as applicable, in:~~

~~1. At least STARTUP within the next 6 hours,~~
~~2. At least HOT SHUTDOWN within the following 6 hours, and~~
~~3. At least COLD SHUTDOWN within the subsequent 24 hours.~~

L.17

24 hours for proposed Required Action A.2
12 hours for proposed Required Action D.1
4 hours for proposed Required Actions B.2 and C.2

~~This specification is not applicable in OPERATIONAL CONDITION 4 or 5.~~ A.16

~~3.0.6 Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to Specification 3.0.1 and 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.~~

declare required features inoperable. L.17 (See ITS 3.0)

A.1

ITS 3.8.1

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

A. C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 The following A.C. distribution system electrical divisions shall be OPERABLE and energized:

a. Division 1, consisting of;

1. 4160-volt bus 241Y.
2. 480-volt busses 235X and 235Y.
3. 480-volt MCCs 235X-1, 235X-2, 235X-3, 235Y-1 and 235Y-2.
4. 120-volt A.C. distribution panels in 480-volt MCCs 235X-1, 235X-2, 235X-3 and 235Y-1.

See ITS 3.8.7

b. Division 2, consisting of;

1. 4160-volt bus 242Y.
2. 480-volt busses 236X and 236Y.
3. 480-volt MCCs 236X-1, 236X-2, 236X-3, 236Y-1 and 236Y-2.
4. 120-volt A.C. distribution panels in 480-volt MCCs 236X-1, 236X-2, 236X-3 and 236Y-2.

c. Division 3, consisting of;

1. 4160-volt bus 243.
2. 480-volt MCC 243-1.
3. 120-volt A.C. distribution panels in 480-volt MCC 243-1.

LA.7

LCO 3.8.1.a

d. Unit 1 Division 1, consisting of;

1. 4160-volt bus 141Y.
2. ~~Breaker 1414 OPERABLE or closed.~~

LA.1

e. Unit 1 Division 2, consisting of;

1. 4160-volt bus 142Y.
2. 480-volt busses 136X and 136Y.
3. 480-volt MCCs 136X-1, 136X-2, 136X-3, 136Y-1, and 136Y-2.
4. 120-volt A.C. distribution panels in 480 volt MCCs 136X-1, 136X-2, 136X-3, and 136Y-2.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

See ITS 3.8.7

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION:

a. With either Division 1 or Division 2 of the above required A.C. distribution system inoperable or not energized, restore the inoperable division to OPERABLE and energized status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours

b. With Division 3 of the above required A.C. distribution system inoperable or not energized, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.1.

See ITS 3.8.7

ACTION A

ACTION G

c. With Unit 1 Division 1 or Unit 1 Division 2 of the above required A.C. distribution systems inoperable or not energized, restore the inoperable division to OPERABLE and energized 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.

A.17

d. With both Unit 1 Division 1 and Unit 1 Division 2 of the above required A.C. distribution systems inoperable or not energized, restore at least one of the inoperable A.C. distribution systems to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

See ITS 3.8.7

SURVEILLANCE REQUIREMENTS

4.8.2.1 The above required A.C. distribution system electrical divisions shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/panels.

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that 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 BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e, the Improved Standard Technical Specifications (ISTS)).

A.2 The details relating to the required day tank level in CTS 3.8.1.1.b.1 and b.2 have been moved to proposed SR 3.8.1.4. No technical changes are being made; therefore, this change is considered administrative in nature.

A.3 The technical content of CTS 3.8.1.1.b.1.b), 3.8.1.1.b.2, 4.8.1.1.2.a.2, 4.8.1.1.2.a.7, 4.8.1.1.2.c, and 4.8.1.1.2.f is being moved to ITS 3.8.3. This is in accordance with the format of the BWR ISTS, NUREG-1434, Rev. 1. Any technical changes to these requirements are addressed in the Discussion of Changes for ITS: 3.8.3.

A.4 The ITS Applicability includes two Notes. In the event the HPCS System is inoperable, Note 1 allows the Division 3 DG to be inoperable. In addition, certain safety related components (e.g., one standby gas treatment subsystem) are powered from Division 2 of the opposite unit. In the event all these required safety related components powered from the opposite unit are inoperable, Note 2 allows the opposite unit Division 2 AC sources to not be required to be OPERABLE. The effect is to continue to allow the ACTIONS to be applied to other AC sources inoperabilities, without the complexity of also having the AC Sources Specification address concurrent Division 3 DG or opposite unit Division 2 AC source inoperability. The format and implementation rules for the ITS would dictate several additional ACTIONS or a separate LCO for the Division 3 DG and the opposite unit Division 2, to address each AC source inoperability in combination with each of the other required AC sources in order to provide ACTIONS similar to those in the current LaSalle 1 and 2 TS. The actual implementation of the Applicability Notes is consistent with the intent of CTS 3.8.1.1, which separates Actions for Divisions 1 and 2 DGs from Actions for Division 3 DG and opposite unit Division 2. Also, since Note 2 modifies the Applicability of ITS 3.8.1, the allowance in CTS 3.8.1.1 Action g to discontinue performance of Surveillance Requirement 4.8.1.1.1.a when the required safety related components powered from the opposite unit are declared

ADMINISTRATIVE

A.4 (cont'd) inoperable is no longer necessary. This change is consistent with ITS LCO 3.0.2 which does not require ACTIONS to be performed when the Technical Specification is not applicable unless specifically stated. Because this change is an enhanced presentation of existing intent, the change is considered administrative.

A.5 The * footnote to CTS LCO 3.8.1.1.b provides alternative actions to those described in CTS 3.8.1.1 action statement b. Part 1 of the * footnote allows Surveillance Requirement 4.8.1.1.1.a to be eliminated when the 0 diesel generator (LaSalle 1 and 2 common Division 1 diesel generator) is inoperable for planned maintenance and testing. However, Part B of the * footnote defines specific requirements for Surveillance Requirement 4.8.1.1.1.a when the 0 diesel generator is inoperable for planned maintenance and testing. ITS 3.8.1 Condition B defines requirements for the Division 1 DG when the Division 1 DG is inoperable for planned maintenance or testing. ITS 3.8.1 Condition C defines requirements for the Division 1 DG when the Division 1 DG is inoperable for reasons other than Condition B. With regard to the Division 1 DG, ITS 3.8.1 Condition C is not entered and the associated Required Actions are not required when the Division 1 DG is inoperable for reasons that meet the entry conditions and Required Actions and associated Completion Times of Condition B. As such, it is unnecessary to state that the Required Actions are eliminated. Because this change is an enhanced presentation of existing intent, the change is considered administrative.

A.6 CTS 4.8.1.1.2.d.2 requires the DG to reject the single largest load while maintaining the engine speed increase ≤ 75% of the difference between nominal speed and the overspeed trip setpoint or ≤ 15% of the nominal speed, whichever is less. These two possible values for the overspeed trip point are fixed by the design of the DG unit. The appropriate value (i.e., the most limiting, which is 66.7 Hz) is presented in proposed SR 3.8.1.9. This presentation eliminates the basis for the accepted value from the Technical Specifications, moving it to the Bases. Since there is no difference in the requirement, this is an editorial presentation preference only.

A.7 AC Sources in CTS 3.8.1.1 (ITS 3.8.1) are considered a support system to the Distribution System in CTS 3.8.2.1 (ITS 3.8.7). In the event AC Sources are inoperable such that a distribution subsystem were inoperable, ITS LCO 3.0.6 would allow taking only the AC Sources ACTIONS; taking exception to complying with the AC Distribution System ACTIONS. Since the AC Sources ACTIONS may not be sufficiently conservative in this event (an entire division may be without power), specific direction to take appropriate ACTIONS for the

ADMINISTRATIVE

A.7 (cont'd) Distribution System is added (ITS 3.8.1, Note to ACTION E) when there is no power for a division. This format and construction implements the existing treatment of this condition within the framework of the LaSalle 1 and 2 Improved Technical Specification methods.

A.8 CTS 3.8.1.1 Action d requires the HPCS System to be declared inoperable and to take the Action required by Specification 3.5.1 when the Division 3 DG is inoperable. CTS 3.8.1.1 Action g requires Specifications 3.6.5.3, 3.6.6.1, and 3.7.2 Actions to be performed when various Division 2 loads are declared inoperable. The format of the ITS does not include providing "cross references". The individual Specifications adequately prescribe the Required Actions for inoperable systems, subsystems, trains, components, and devices without such references. Therefore, the current LaSalle 1 and 2 TS references to "take the ACTION required by..." in CTS 3.8.1.1 Actions d and g serve no functional purpose, and their deletion is an administrative presentation preference.

A.9 CTS 3.8.1.1 Actions i, j, k, and l specify which ACTION requirements apply with various combinations of AC source inoperabilities. Section 1.3 of ITS states that when situations are discovered that require entry into more than one Condition at a time, the Required Actions for each Condition must be performed within the associated Completion Time. In addition, to avoid the misinterpretation that LCO 3.0.3 (CTS 3.0.3) must be entered if Actions are not specifically defined for multiple combinations of inoperabilities, the Bases of ITS LCO 3.0.3 state that LCO 3.0.3 is applicable when, "...no combination of Conditions stated in the ACTIONS can be made that exactly corresponds to the actual condition of the unit." As a result, it is not necessary to provide specific actions to reference other actions. Therefore, CTS 3.8.1.1 Actions i, j, k, and l are not included as separate ITS 3.8.1 ACTIONS. Since this change preserves existing intent, this change is considered an administrative change.

A.10 The format of the ITS allows multiple Conditions to be simultaneously entered. With three or more required AC sources inoperable (e.g., two offsite circuits and one DG), ACTIONS would be taken in accordance with ITS 3.8.1, and ITS LCO 3.0.3 entry conditions would not be met. However, CTS 3.8.1.1 does not provide Actions for these conditions. Therefore, a CTS 3.0.3 entry would be required. To preserve the existing intent for CTS 3.0.3 entry, ITS 3.8.1 ACTION H is added to direct entry into ITS LCO 3.0.3.

ADMINISTRATIVE (continued)

A.11 CTS 4.8.1.1.2.a.4, 4.8.1.1.2.a.5, 4.8.1.1.2.d.2, 4.8.1.1.2.d.3, and 4.8.1.1.2.d.8 specify requirements for testing of a DG (0 diesel generator) that is common to both units. Therefore, a Note is added to ITS SRs (SR 3.8.1.2 Note 3, SR 3.8.1.3 Note 5, SR 3.8.1.7 Note 2, SR 3.8.1.9 Note, SR 3.8.1.10 Note, SR 3.8.1.14 Note 3, and SR 3.8.1.15 Note 3) to clearly state the current plant interpretation, i.e., a single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. This is acceptable since the main purpose of the Surveillance can be met performing the test on either unit. If the DG fails one of these Surveillances, the DG is considered inoperable on both units unless the cause of the failure can be directly related to only one unit.

A.12 The * footnote to CTS 4.8.1.1.2, which allows DG engine pre-lubrication when starting diesel generators, is referenced by CTS 4.8.1.1.2.d.2, 4.8.1.1.2.d.3, 4.8.1.1.2.d.8, 4.8.1.1.2.d.9, 4.8.1.1.2.d.10, and 4.8.1.1.2.d.11. These Surveillance Requirements define requirements for operating DGs. Therefore, it is unnecessary to include a note that allows DG starting to be proceeded by DG engine pre-lubrication. This change is consistent with the ISTS and does not alter the existing intent. Therefore, this change is considered administrative.

A.13 CTS 4.8.1.1.2.d.7 requires a verification that all automatic trips except engine overspeed, generator differential current, and emergency manual stop are automatically bypassed on an ECCS actuation signal. The emergency manual stop is not an automatic DG trip. This trip manually trips the fuel racks, and must be manually initiated by an operator. Therefore, this trip is not included in the ITS, and since the CTS only requires automatic trips to be verified, its deletion is considered administrative.

A.14 CTS 4.8.1.1.2.d.12 references load sequence timers. LaSalle 1 and 2 design does not include load sequencer timers. Specific safety related loads are sequenced onto the emergency busses by time delay relays. As such, the wording of ITS SR 3.8.1.18 (CTS 4.8.1.1.2.d.12) has been modified to reference time delay relays. This change preserves existing intent. Therefore, this change is considered an administrative change.

A.15 If CTS 4.8.1.1.2.d.8 (the DG restart test portion) fails after the performance of the 24 hour DG load test, the ** footnote to CTS 4.8.1.1.2.d.8 allows the diesel generator to be operated at 2600 kW for 2 hours or until operating temperature has stabilized. ITS SR 3.8.1.15 Note 1 only includes a requirement that load must be ≥ 2400 kW and ≤ 2600 kW for 2 hours within 5 minutes of starting the SR. Operation ≥ 2400 kW and ≤ 2600 kW for 2 hours has been the accepted manufacturer's recommendation to achieve hot conditions (i.e., a stabilized operating temperature) and is consistent with the ISTS. Since the prerequisite for the SR is effectively unchanged, this change is considered administrative.

ADMINISTRATIVE (continued)

A.16 CTS 3.0.5 has been incorporated into the ACTIONS of ITS 3.8.1. ITS 3.8.1 is only applicable in MODES 1, 2, and 3. Therefore, the statement in CTS 3.0.5, which states that the Specification is not applicable in Operational Condition (MODE) 4 or 5, is no longer necessary and is deleted. This change is administrative.

A.17 CTS 3.8.2.1.d requires the opposite unit Division 1 4.16 kV bus and cross-tie breaker be OPERABLE and CTS 3.8.2.1 Action c provides a 7 day restoration time if the opposite unit Division 1 4.16 kV bus or cross-tie breaker is inoperable. In ITS, this bus and cross-tie breaker are identified in ITS 3.8.1 Bases as part of the alternate offsite circuit pathway to the given unit. This change simply clarifies that this requirement is associated with the ITS AC Sources Specifications. Therefore, this change is considered administrative.

A.18 Since the Specification has been prepared for both units, two Notes have been added to the Surveillance Requirements (ITS Surveillance Table Notes 1 and 2) to clearly define the applicability of Surveillances to both units. An additional Surveillance (proposed SR 3.8.1.21) has also been added to ensure the opposite unit's power sources are properly tested. Since these Notes are considered clarifications to the current requirements these modifications are considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 CTS 4.8.1.1.2.d.4 and 4.8.1.1.2.d.6 require de-energization and re-energization of the Division 3 bus and its loads for loss-of-offsite-power simulation testing and for testing of response to a loss-of-offsite-power in conjunction with an ECCS actuation. The ITS SR 3.8.1.11 and SR 3.8.1.19 are written to differentiate between the Division 3 loads that are permanently connected and the auto-connected loads such as the diesel generator cooling water pump. This more specific delineation is considered a more restrictive change with regard to plant operation.

M.2 Currently, CTS 3.8.1.1.b.2 requires that the combined fuel oil volume of the Division 3 DG (1B and 2B) fuel storage tank and day tank to be ≥ 29,750 gallons. No minimum volume for the day tank is provided; i.e., all the fuel oil can be in the fuel storage tank and the LCO requirement is met. To ensure that

TECHNICAL CHANGES - MORE RESTRICTIVE

M.2 (cont'd) the day tank maintains a minimum fuel oil volume (sufficient to operate the DG for 50 minutes without makup), a new requirement is added to ITS SR 3.8.1.4 for the Division 3 DG to maintain 550 gallons of fuel oil in the day tank. Since this change adds an additional requirement that is not currently in the CTS, this change is considered more restrictive.

M.3 Not used.

M.4 Part B of the * footnote to CTS 3.8.1.1 Action b allows Surveillance Requirement 4.8.1.1.1.a (ITS SR 3.8.1.1) to be performed within 48 hours prior to removal of the 0 diesel generator (Division 1 DG) from service for planned maintenance or testing. Performance of this Surveillance ensures a reliable power source remains while the DG is inoperable. If the Surveillance is performed 48 hours prior to removal of the DG from service, the configuration of the offsite circuits may have been changed. Therefore, ITS 3.8.1 Required action B.2 requires SR 3.8.1.1 to be performed within 1 hour following removal of the diesel generator from service. This change is consistent with the use and application of the ISTS and is considered more restrictive on plant operation.

M.5 The * footnote to CTS 3.8.1.1 Action b states that the provisions of Specification 3.0.4 (ITS LCO 3.0.4) are not applicable when the 0 diesel generator (Division 1 DG) is removed from service for pre-planned maintenance or testing. ITS 3.8.1 does not provide this exception to ITS LCO 3.0.4. Elimination of this exception will require the inoperable DG to be restored to OPERABLE status prior to making a MODE change. This will ensure all required AC sources are OPERABLE prior to making a MODE change, so that accident analysis assumptions are met. Elimination of this exception to ITS LCO 3.0.4 is an added restriction on plant operation.

M.6 CTS 3.8.1.1 Action e requires the unit to be placed in Hot Shutdown (Mode 3) if one of the two inoperable offsite circuits is not restored to Operable status in 24 hours. ITS 3.8.1 ACTION G will require the unit to be placed in Mode 4 within 36 hours, in addition to being in Mode 3 within 12 hours. This will ensure the unit is placed in a Mode where the LCO requirements do not have to be met. This change is more restrictive on plant operations.

TECHNICAL CHANGES - MORE RESTRICTIVE (continued)

M.7 When the opposite unit's Division 2 diesel generator is inoperable, CTS 3.8.1.1 Action g only requires a DG start verification or a verification that a common mode failure does not exist on the unit Division 2 diesel generator. ITS 3.8.1 ACTION C requires a DG start verification or a verification that a common mode failure does not exist on all required OPERABLE DGs. This requirement is added to ensure that a common failure affecting more than one diesel generator is detected thereby minimizing the risk of insufficient standby AC sources available to power the minimum required ESF functions. This is necessary since all five DGs are of a similar design. Since additional requirements have been added, this change is considered more restrictive on plant operation.

M.8 CTS 3.8.1.1 Action h allows one offsite circuit and the Division 3 DG to be inoperable concurrently for up to 72 hours. ITS 3.8.1 ACTION E will limit this time to 12 hours. This new time is consistent with the time allowed in CTS 3.8.1.1 Action c (ITS 3.8.1 ACTION E) when the Division 1 or 2 DG and one offsite circuit is concurrently inoperable. Limiting this situation to 12 hours adds a restriction not currently imposed in the LaSalle 1 and 2 CTS and will ensure proper actions are taken in a timely manner when multiple AC Sources are inoperable. This is also consistent with Regulatory Guide 1.93.

M.9 Two Notes have been added to CTS 4.8.1.1.2.a.5. Proposed SR 3.8.1.3 Note 3 precludes this Surveillance from being performed on more than one DG at a time. This will ensure that an electrical disturbance during the DG test can only adversely affect one DG. Proposed SR 3.8.1.3 Note 4 requires that this SR be immediately preceded by a successful performance of SR 3.8.1.2 (the DG start Surveillance). This will ensure the DG load carrying capability is tested subsequent to a successful DG start test. While these Notes clearly represent current LaSalle 1 and 2 practice, they are more restrictive than the CTS since the SR could currently be performed without these restrictions.

M.10 Limitations on the operating power factor are added to CTS 4.8.1.1.2.d.8, the 24-hour run Surveillance (proposed SR 3.8.1.14, including Note 2). These limitations ensure the DG is conservatively tested at as close to accident conditions as reasonable provided the power factor can be attained. The actual power factor values have been added to the Bases. A Note has been also added to CTS 4.8.1.1.2.d.8 (proposed SR 3.8.1.14 Note 1) to ensure a momentary transient that results in the power factor not being met does not invalidate the 24 hour run. The change to include any power factor requirement is more restrictive on plant operation.

TECHNICAL CHANGES - MORE RESTRICTIVE (continued)

M.11 CTS 4.8.1.1.2.e, the 10 year DG simultaneous start test, does not provide a minimum voltage the DGs must attain within the 13 second DG start time assumed in the accident analysis. Proposed SR 3.8.1.20 requires the minimum voltage to be 3744 V. The new minimum voltage limit ensures that components powered by the associated bus will have sufficient voltage to perform their required function. This acceptance criterion is consistent with all other DG start acceptance criteria. This is an added restriction on plant operation.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The CTS 3.8.1.1.a, 3.8.1.1.b, 3.8.1.1.b.3, and 3.8.2.1.d details relating to system design and OPERABILITY (i.e., that the offsite circuits are "physically independent," the DGs are "separate and independent," the nomenclature of the DGs, that each DG has "a separate fuel transfer pump," and some components of the opposite unit's offsite circuit) are proposed to be relocated to the Bases. The details for system OPERABILITY are not necessary in the LCO. The definition of OPERABILITY suffices. The design details are not necessary to be included in the Technical Specifications to ensure the OPERABILITY of the AC Sources since OPERABILITY requirements are adequately addressed in ITS 3.8.1, "AC Sources—Operating." As such, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 Not used.

LA.3 Details of CTS 3.8.1.1 Action g, regarding the subsystems required to be declared inoperable, are proposed to be relocated to the Bases. These details are design details associated with the opposite unit's division and not necessary to ensure proper application of CTS 3.8.1.1 Action g (proposed Applicability Note 2 to ITS 3.8.1). The requirements of ITS 3.8.1 and the associated Surveillance Requirements for the opposite unit's AC electrical power sources are adequate to ensure proper action is taken when an opposite unit AC electrical power source is inoperable. As such, these relocated requirements are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases are controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

LA.4 The * footnote to CTS 4.8.1.1.2, 4.8.1.1.2.d.4, 4.8.1.1.2.d.5, 4.8.1.1.2.d.6, 4.8.1.1.2.d.8, and 4.8.1.1.2.e specifies that DG starts may be preceeded by an engine prelube as recommended by the manufacturer, and the ** footnote to CTS 4.8.1.1.2.a.4 specifies that diesel engine warmup and loading procedures are used in order to minimize mechanical stress and wear on the DGs caused by fast starting. These details are proposed to be relocated to the Bases and are not included in ITS SR 3.8.1.2, SR 3.8.1.7, SR 3.8.1.11, SR 3.8.1.12, SR 3.8.1.15, SR 3.8.1.19, and SR 3.8.1.20 since these are details relating to the reason for the associated Notes to these SRs. These details are not necessary to ensure proper application of CTS 3/4.8.1.1 Surveillance Requirements. The requirements of ITS 3.8.1 and the associated Surveillance Requirements are adequate to ensure the diesel generators are maintained OPERABLE. As such, these relocated requirements are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases are controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.5 The CTS 4.8.1.1.2.d.2 specific kilowatt value of the single largest post-accident load for the single load rejection Surveillance Requirement is proposed to be relocated to the Bases. The reference to the specific value of the single largest post-accident load within the Technical Specifications is not necessary to adequately present the requirement. The value of the load is specifically detailed in the Bases. These details are not necessary to ensure the OPERABILITY of the diesel generators. The requirements of ITS 3.8.1 and the associated Surveillance Requirements (including SR 3.8.1.9) for the diesel generators are adequate to ensure the diesel generators are maintained OPERABLE. As such, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.6 The requirements of CTS 4.8.1.1.2.d.6.a)2) that the auto-connected emergency loads be energized "through the load sequencer" for Division 1 and 2 are proposed to be relocated to the Bases in a discussion of the DG loading logic. The loads are designed to be connected only through the loading logic, thus if they are not energized, the SR has failed. Therefore, this detail is not necessary to ensure the OPERABILITY of the diesel generators. The requirements of ITS 3.8.1, and the associated Surveillance Requirements for the diesel generators are

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.6 (cont'd) adequate to ensure the diesel generators are maintained OPERABLE. Therefore, the relocated requirements are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.7 CTS 4.8.1.1.2.d.9, which addresses the specific load value for the auto-connected loads, is proposed to be relocated to the UFSAR. In addition, the specific bus designation (141Y and 241Y) associated with the offsite circuit path specified in CTS 3.8.2.1.d is proposed to be relocated to the UFSAR. The specific load value for the autoconnected loads on the diesel generators and bus designation are design details. These details are not necessary to ensure the OPERABILITY of the diesel generators or offsite circuits. The definition of OPERABILITY, the requirements of ITS 3.8.1, and the associated Surveillance Requirements for the diesel generators and offsite circuits are adequate to ensure the AC sources are maintained OPERABLE. Changes to the UFSAR are controlled by 10 CFR 50.59. In addition, any change to the loads placed on the DG will be controlled by 10 CFR 50.59 (a design change is required to change the actual loads). As such, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety.

LA.8 The details in CTS 3.8.1.1.b footnote * provision E, that the control circuit for the unit cross-tie breakers between buses 142Y and 242Y are temporarily modified to allow the breakers to be closed, is proposed to be relocated to the Bases. This provision is required to be able to ensure an alternate source (the unit or opposite unit Division 2 DG) is capable of supplying the unit and opposite unit Division 2 emergency buses while maintenance is being performed on the common DG (DG 0). The detail of the method in which this is accomplished is not necessary to be in the ITS to ensure this can be achieved. ITS 3.8.1 Required Action B.1 requires immediate verification that the unit crosstie breakers between the unit and opposite unit Division 2 emergency buses are capable of being closed with a DG powering one of the buses. Therefore, the relocated requirements are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

LD.1 The Frequency for performing CTS 4.8.1.1.1.b, 4.8.1.2.d.2, 4.8.1.2.d.3, 4.8.1.2.d.4, 4.8.1.2.d.5, 4.8.1.2.d.6, 4.8.1.2.d.7, 4.8.1.2.d.8, 4.7.1.2.d.10, 4.8.1.2.d.11, and 4.8.1.2.d.12 (proposed SRs 3.8.1.8, 3.8.1.9, 3.8.1.10, 3.8.1.11, 3.8.1.12, 3.8.1.19, 3.8.1.13, 3.8.1.14, 3.8.1.15, 3.8.1.16, 3.8.1.17, and 3.8.1.18, respectively) has been extended from 18 to 24 months. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991.

SR 3.8.1.8 requires the transfer of each 4.16 kV emergency bus power supply from the normal offsite circuit to the alternate offsite circuit to demonstrate the OPERABILITY of the alternate circuit. Extending the Surveillance interval for this SR is acceptable for the following reasons: the design, in conjunction with Technical Specification requirements which limit the extent and duration of inoperable AC sources, provides substantial redundancy in AC sources; breaker verification and periodic breaker maintenance is based on performance history for the breakers and is designed for maximum availability.

The portions of the test not directly associated with the functioning of the offsite source and breaker movement are equivalent to a LOGIC SYSTEM FUNCTIONAL TEST. For these logic tests, the NRC Safety Evaluation Report (dated August 2, 1993) related to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3, surveillance intervals from 18 to 24 months documents the following conclusion:

> "Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the Logic System Functional Test interval represents no significant change in the overall safety system unavailability."

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) Therefore, based on the above discussion, the impact of this change, if any, on system availability is minimal.

SR 3.8.1.9 verifies each required DG rejects a load greater than or equal to its associated single largest post-accident load and following load rejection, the specified frequency is achieved. This SR verifies the proper operation of the governor and load control circuits.

SR 3.8.1.10 verifies each required DG does not trip and the specified voltage is maintained during and following a load rejection of the specified load. This SR verifies the proper operation of the governor and load control circuits.

SR 3.8.1.11 verifies on an actual or simulated loss of offsite power signal: a) de-energization of emergency buses, b) load shedding from emergency buses for Division 1 and 2 only, and c) DG auto-starts from standby condition and 1) energizes permanently connected loads in the specified time, 2) energizes auto-connected shutdown loads, 3) maintains the specified steady state voltage, 4) maintains the specified steady state frequency, and 5) supplies permanently connected and auto-connected shutdown loads for greater than the specified time. This Surveillance demonstrates the as designed operation of the standby power sources during loss of the offsite source. This test verifies all actions encountered from the loss of offsite power, including shedding of the Division 1 and 2 nonessential loads and energization of the emergency buses and respective loads from the DG. It further demonstrates the capability of the DG to automatically achieve the required voltage and frequency within the specified time.

SR 3.8.1.12 verifies on actual or simulated Emergency Core Cooling (ECCS) initiation signal each required DG auto-starts from standby condition and: a) within the specified time after auto-start, achieves the specified voltage and frequency, b) achieves the specified steady state voltage and frequency, c) and operates for the specified minimum time. This Surveillance demonstrates that the DG automatically starts and achieves the required voltage and frequency within the specified time from the design basis actuation signal (LOCA signal) and operates for greater than the specified time period which provides sufficient time to demonstrate stability.

SR 3.8.1.13 verifies each required DG's automatic trips are bypassed on an actual or simulated ECCS initiation signal except: a) engine overspeed, and b) generator differential current. This SR is essentially a LOGIC SYSTEM FUNCTIONAL TEST since the normal operation of the DG has all automatic trips active, and the trips are only bypassed with a ECCS initiation signal.

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd)

SR 3.8.1.14 verifies each required DG operates greater than or equal to 24 hours: a) for 2 hours greater than the specified load, b) for the remaining hours of the test at the specified load. This Surveillance demonstrates that the DG meets Regulatory Guide 1.108 paragraph 2.a.(3), which requires that the DGs can start and run continuously at full load capability for an interval of not less than 24 hours - 22 hours of which is at a load equivalent to the continuous rating of the DG, and 2 hours of which is at a load equivalent to 110% of the continuous duty rating of the DG.

SR 3.8.1.15 verifies each required DG starts and achieves: a) in the specified time the required voltage and frequency, b) specified steady state voltage and frequency. This Surveillance demonstrates that the diesel engine can restart from a hot condition, such as subsequent to shutdown from normal Surveillances, and achieve the required voltage and frequency within the required time.

SR 3.8.1.16 verifies each required DG: a) synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power, b) transfers loads to offsite power source, c) and returns to ready-to-load operation. This Surveillance ensures that the manual synchronization and load transfer from the DG to each required offsite power source can be made and that the DG can be returned to ready-to-load status when offsite power is restored. It also ensures that the undervoltage logic is reset to allow the DG to reload if a subsequent loss of offsite power occurs.

SR 3.8.1.17 verifies with a required DG operating in test mode and connected to its bus: a) For Division 1 and 2 DGs, an actual or simulated ECCS initiation signal overrides the test mode by returning DG to ready-to-load operation; and b) for Division 3 DG, an actual or simulated DG overcurrent trip signal automatically disconnects the offsite power source while the DG continues to supply normal loads. This Surveillance demonstrates operation of the test mode override. The test mode override ensures that the DG availability under accident conditions is not compromised as the result of testing. Interlocks to the LOCA sensing circuits cause the DG to automatically reset ready-to-load operation if an ECCS initiation signal is received during operation in the test mode.

SR 3.8.1.18 verifies the interval between each sequenced load block for Division 1 and 2 DGs only, is within the specified design interval for each time delay relay. Under accident conditions, loads are sequentially connected to the bus by the time delay relays. The time delay relays control the permissive and starting

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont'd) signals to motor breakers to prevent overloading of the bus power supply due to high motor starting currents. The load sequence time tolerance ensures that sufficient time exists for the bus power supply to restore frequency and voltage prior to applying the next load and that safety analysis assumptions regarding emergency equipment time delays are not violated.

SR 3.8.1.19 verifies on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal: a) de-energization of emergency buses; b) load shedding from emergency buses for Division 1 and 2 only; and c) DG auto-starts from standby condition and; 1) energizes permanently connected loads in less than the specified time, 2) energizes auto-connected emergency loads, 3) maintains steady state voltages specified, 4) maintains specified frequency, and 5) supplies permanently connected and auto-connected emergency loads for greater than specified time. This Surveillance demonstrates the DG operation, as discussed in the Bases for SR 3.8.1.11, during a loss of offsite power actuation test signal in conjunction with an ECCS initiation signal. In lieu of actual demonstration of connection and energization of loads, testing that adequately shows the capability of the DG system to perform these functions is acceptable.

Extending SRs 3.8.1.9, 3.8.1.10, 3.8.1.11, 3.8.1.12, 3.8.1.13, 3.8.1.14, 3.8.1.15, 3.8.1.16, 3.8.1.17, 3.8.1.18 and 3.8.1.19 surveillance intervals are acceptable for the following reasons: 1) During the operating cycle, the diesel generators are subjected to operational testing every 31 days and fast start testing every 184 days. This testing provides confidence of diesel generator operability and the capability to perform its intended function. The testing will also provide prompt identification of any substantial DG degradation or failure. 2) DGs are not operated except for the performance of the monthly demonstration of operability so there is minimal risk of wear related degradation. 3) DG attributes subject to degradation due to aging, such as fuel oil quality, are subject to its requirements for replenishment and testing.

The portions of the test not directly associated with the functioning of the Diesel Generator and breaker movement are equivalent to a LOGIC SYSTEM FUNCTIONAL TEST. For these logic tests, the NRC Safety Evaluation Report (dated August 2, 1993) related to extension of the Peach Bottom Atomic Power Station, Unit Numbers 2 and 3, surveillance intervals from 18 to 24 months documents the following conclusion:

TECHNICAL CHANGES - LESS RESTRICITVE

LD.1 (cont'd)

"Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems' reliabilities are not dominated by the reliabilities of the logic system, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis. Since the probability of a relay or contact failure is small relative to the probability of mechanical component failure, increasing the Logic System Functional Test interval represents no significant change in the overall safety system unavailability."

Therefore, based on the above discussion, the impact of this change, if any, on system availability is minimal.

Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

"Specific"

L.1 In the event of multiple concurrent AC Source inoperabilities (i.e., one Division 1 or 2 DG and one offsite circuit), the existing Actions limit restoration time to 72 hours from the time of initial loss of the first AC Source (CTS 3.8.1.1 Action c). When a second inoperability occurs just prior to restoration of the initial inoperability and close to the expiration of the initial 72 hours, this limitation can provide little or no time to effect repair. The result would be a forced shutdown of the unit. While these simultaneous inoperabilities are expected to be rare, it is also expected that any AC source inoperability would be repaired in a reasonable time (≤ 72 hours). Given the minimal risk of an event during the repair of the subsequent inoperability, the likelihood of a satisfactory return to OPERABLE, and the risks involved with introducing plant transients associated with a forced shutdown, it is proposed to allow a separate time period for this subsequent repair. Since this rationale can be taken to extreme with continuous multiple overlapping inoperabilities, a maximum restoration time limit is imposed. The ITS format presents this as an additional Completion Time of "10 days from discovery of failure to meet LCO" in ITS 3.8.1 Required Actions A.3, B.4, and C.4.

TECHNICAL CHANGES - LESS RESTRICTIVE

L.1 (cont'd) In addition, in the event of multiple DG inoperabilities (Division 1 and 2) or multiple offsite circuit inoperabilities, the existing Actions limit restoration time to 72 hours from the time of initial loss (CTS 3.8.1.1 Actions e and f). The consequences and occurrences of the multiple inoperabilities is similar to that described in the first paragraph. Therefore, a separate time period is allowed for the subsequent repair. This time period is described in ITS 1.3, and essentially allows extension of the initial restoration time by 24 hours, not to exceed the actual time if the subsequent inoperability were tracked from its time of loss. The ITS 1.3 limits the subsequent inoperability extension to one use, i.e., the second inoperability can be extended, but not a third or subsequent inoperability. This is fully described in ITS 1.3.

L.2 Part B of the * footnote to CTS 3.8.1.1 Action b requires CTS 4.8.1.1.2.a.4, a DG start test, to be performed within 48 hours prior to performing pre-planned maintenance or testing on the Division 1 DG. However, under normal conditions when a DG is inoperable, CTS 3.8.1.1 Action b does not require this test if a DG is inoperable due to pre-planned maintenance or testing. The ITS will not include this extra requirement when the Division 1 DG is placed in an inoperable status for pre-planned maintenance or testing. Generic Letter 93-05 allowed an alternative to starting the remaining DGs to determine their OPERABILITY status when a DG is found to be inoperable. The alternative is to determine that a common mode failure does not exist. When the Division 1 DG is removed from service to perform pre-planned maintenance and testing, then the reason for its inoperability is known and does not affect the remaining OPERABLE DGs. This change also minimizes DG starts. Minimizing DG starts is recommended to avoid unnecessary diesel wear, thereby enhancing overall DG reliability. In addition, a single event could compromise the required offsite circuits and the remaining required DGs.

Additionally, the requirement that precludes maintenance on offsite circuits or diesel generators while the 0 diesel generator (common diesel generator) is inoperable, as required by Part C of the * footnote to CTS 3.8.1.1 Action b, is deleted. The reason for the deletion of this requirement is the ACTIONS of ITS 3.8.1 are adequate to ensure appropriate compensatory measures are taken in the event another required AC electrical power source is inoperable. Also, the intent of ITS 3.0.2 (CTS 3.0.1), as stated in the ITS 3.0.2 Bases, is that equipment removed from service intentionally should not be made for operational convenience. Therefore, performance of maintenance on another AC electrical power source should only be performed concurrently with the common

TECHNICAL CHANGES - LESS RESTRICTIVE

L.2 (cont'd) diesel generator inoperable if it was necessary to maintain immediate reliability of the AC Electrical Power System. In the event, another AC electrical power source becomes inoperable during planned maintenance on the common DG, CTS 3.0.3 would have to be entered since Part C of the * footnote to CTS 3.8.1.1 Action b is not met and no other actions are provided in CTS 3.8.1.1. Proposed ITS 3.8.1 ACTIONS will provide reasonable time to evaluate and repair, as necessary, any inoperable AC source that does not result in a severely degraded AC Electrical Power System, thereby avoiding an unnecessary plant transient.

L.3 CTS 3.8.1.1 Actions b, c, d, f, and g footnote * states "This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABILITY. The provisions of Specification 3.0.2 are not applicable." This requirement (to verify the cause of the inoperable DG does not impact the other DG) is proposed to be deleted. The intent of this requirement, testing the other diesel generators, is related to the determination that no common cause failure exists, whether or not the originally discovered inoperable DG has already been restored. "Common cause" evaluations are required by the ComEd Nuclear Stations Corrective Action Program for all significant safety related deficiencies (as would be the case for inoperable DGs). The program requires "prompt" investigation of potential common mode failures and timely evaluations and corrective actions to preclude their recurrence. The Corrective Action Program (required by 10 CFR 50, Appendix B) provides assurance the necessary evaluations are completed in a timely manner without necessitating abnormal requirements within the ITS.

L.4 CTS 3.8.1.1 Actions c and f require a verification that the cause of a DG inoperability does not affect the remaining DGs. This is verified by an evaluation or test within 8 hours. ITS 3.8.1 Required Actions C.3.1 and C.3.2 will continue to require this verification, but will allow 24 hours to perform the verification. The proposed Completion Time is consistent with GL 84-15, which stated that the 24 hours was a reasonable time to perform the verification. This will allow more attention to be focused on restoring the inoperable DG, in lieu of testing the remaining OPERABLE DGs. This proposed time is also consistent with that provided in CTS 3.8.1.1 Actions b, d, and g, when one DG is inoperable. This extension is acceptable since the remaining DGs are routinely found to be OPERABLE during this verification. This change is also consistent with the time approved for WNP-2, which has a similar DG electrical distribution design (i.e., three divisionalized unit DGs), in their recent ITS amendment.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.5 CTS 3.8.1.1 Actions do not address both Division 2 DGs inoperable, therefore, the plant would default to CTS 3.0.3. ITS LCO 3.8.1 ACTION F will allow the unit Division 2 DG and required opposite unit DG to be inoperable for 2 hours before entry into ITS LCO 3.8.1, ACTION G (MODE 3 within 12 hours and MODE 4 within 36 hours) is required. With both unit Division 2 DGs inoperable, insufficient standby AC sources are available to power the minimum required ESF functions. Since the offsite Electrical Power System is the only source of AC power for the required ESF equipment at this level of degradation, the risk associated with continued operation for a very short time could be less than that associated with an immediate controlled shutdown. Since any inadvertent unit generator trip could also lead to a loss of offsite AC power, the time allowed for continued operation is severely restricted. The intent here is to avoid the risk associated with an immediate controlled shutdown and to minimize the risk associated with this level of degradation. In the case where both unit Division 2 DGs are inoperable, the opposite unit's Division 2 subsystems (e.g., SGT subsystem) could be declared inoperable (proposed ITS 3.8.1 Applicability Note 2) and Condition F could be exited with only one required unit DG remaining inoperable. However, with the given unit Division 2 DG remaining inoperable and the opposite unit Division 2 subsystems declared inoperable, redundant required feature failures exist, according to proposed ITS 3.8.1 Required Action C.2. Although, this Required Action allows an additional 4 hours, the additional time period is considered acceptable since offsite power is still available to the given unit Division 2 loads thereby maintaining the related safety functions.

L.6 The requirement to perform CTS 4.8.1.1.1.b and 4.8.1.1.2.d during shutdown has not been included in proposed SRs 3.8.1.8, 3.8.1.9, 3.8.1.10, 3.8.1.11, 3.8.1.12, 3.8.1.13, 3.8.1.14, 3.8.1.15, 3.8.1.16, 3.8.1.17, 3.8.1.18, and 3.8.1.19. The proposed Surveillances do not include the restriction on plant conditions. The control of plant conditions appropriate to perform the Surveillance is an issue for procedures and scheduling. As indicated in Generic Letter 91-04, allowing this control is consistent with the vast majority of other Technical Specification Surveillances that do not dictate plant conditions for the Surveillance. This detail of the Surveillances is a prerequisite for performance of the test and is not necessary for ensuring the requirements to demonstrate OPERABILITY of the DG or qualified offsite sources. In addition, the requirement to perform these Surveillances during shutdown is not required by the other BWR nuclear plants on the ComEd system (i.e., Dresden and Quad Cities).

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.7 CTS 4.8.1.1.2.a requires the normal monthly DG Surveillances to be performed on a STAGGERED TEST BASIS. Proposed SRs 3.8.1.2, 3.8.1.3, 3.8.1.4, 3.8.1.6, and 3.8.1.7 do not include the STAGGERED TEST BASIS requirement. The intent of a requirement for staggered testing is to increase reliability of the component/system being tested. A number of reviews/evaluations have been performed which have demonstrated that staggered testing has negligible impact on component reliability. As a result, it has been determined that staggered testing 1) is operationally difficult, 2) has negligible impact on component reliability, 3) is not as significant as initially thought, 4) has no impact on failure frequency, 5) introduces additional stress on components such as DGs potentially causing increased component failure rates and component wearout, 6) results in reduced redundancy during testing, and 7) increases likelihood of human error by increasing testing intervals. Therefore, the DG staggered testing requirements have been deleted.

L.8 The Surveillance Frequency for CTS 4.8.1.1.2.a.3 (proposed SR 3.8.1.6), the fuel oil transfer pump test, has been changed from "31 days" to "92 days." The 92 day transfer pump test frequency is consistent with ASME Section XI requirements for similar pumps. Industry and plant operating experience has shown testing of pumps of this type on a quarterly basis to be adequate for maintaining OPERABILITY. Performing this test on a less frequent basis also reduces wear on the pumps.

L.9 The requirements of CTS 4.8.1.1.2.a.4, 4.8.1.1.2.d.5, and 4.8.1.1.2.e (proposed SR 3.8.1.7, SR 3.8.1.12, SR 3.8.1.20) have been changed to only require the minimum voltage and frequency limits to be met within the appropriate time limits. Currently, these CTS SRs require the establishment of a speed of 900 rpm +5%, -2% within ≤ 13 seconds and generator frequency within 60 + 3.0, -1.2 Hz within 13 seconds after the start signal. For these DGs, a speed of 900 rpm is equivalent to a frequency of 60 Hz. Thus, the acceptance criterion for the DG speed is equivalent to the acceptance criteria for the DG frequency of 60 Hz +3.0, -1.2 Hz. As stated above, the proposed SRs will require only the establishment of the minimum frequency (i.e., 58.8 Hz) and voltage within the given time frame. The accident analysis requires that the DGs be capable of being loaded within 13 seconds. This can be accomplished at 58.8 Hz. While the upper level requirement regarding the speed acceptance criterion is being eliminated, the requirement to establish a steady state voltage and frequency has been retained. The upper limit on the frequency will be 61.2 Hz, this is equivalent to a speed of 900 rpm +2%. Thus, for steady state conditions, the proposed SRs will be more restrictive.

TECHNICAL CHANGES - LESS RESTRICTIVE

L.9 (cont'd) Once steady state conditions are reached, the minimum and maximum voltage and frequency limits must be maintained. The proposed requirements will, therefore, require that the DG start and achieve in ≤ 13 seconds, voltage ≥ 4010 V and frequency ≥ 58.8 Hz; and steady state voltage ≥ 4010 V and ≤ 4310 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz. The tests in question are those that automatically start the DG but do not tie it to a bus. Verification that the minimum voltage and frequency limits are met within the proper time is sufficient to ensure the DG can perform its design function. When called upon, the DG must start and tie within the proper time. Once the minimum voltage and frequency limits are met, the DG can tie to the bus. When a test is performed that does not result in tieing the DG to the bus, a voltage or frequency overshoot can occur since no loads are being tied (the loading tends to minimize overshoot). This overshoot could be such that the voltage or frequency is outside the band high when the time limit expires. This condition however, is not indicative of an inoperable DG, provided that steady state voltage and frequency are maintained. The DG start times are monitored and trend evaluated to identify degradation of governor and voltage regulator performance as described in the Bases. This change is consistent with TSTF-163.

L.10 CTS 4.8.1.1.2.a.6 requires verification that each DG is aligned to provide standby power to the associated emergency buses. The requirements of ITS 3.8.1, which require the DGs to be OPERABLE, and the associated Surveillance Requirements for the DGs are adequate to ensure the DGs are maintained OPERABLE. In addition, the definition of OPERABILITY and procedural controls on DG standby alignment are sufficient to ensure the DG remains aligned to provide standby power. In general, this type of requirement is addressed by plant specific processes which continuously monitor plant conditions to ensure that changes in the status of plant equipment that require entry into ACTIONS (as a result of failure to maintain equipment OPERABLE) are identified in a timely manner. This verification is an implicit part of using Technical Specifications and determining the appropriate Conditions to enter and Actions to take in the event of inoperability of Technical Specification equipment. In addition, plant and equipment status is continuously monitored by control room personnel. The results of this monitoring process are documented in records/logs maintained by control room personnel, as required. The continuous monitoring process includes re-evaluating the status of compliance with Technical Specification requirements when Technical Specification equipment becomes inoperable using the control room records/logs as aids. Therefore, the explicit requirement to periodically verify that each DG is aligned

TECHNICAL CHANGES - LESS RESTRICTIVE

L.10 (cont'd) to provide standby power to the associated emergency buses is considered to be unnecessary for ensuring compliance with the applicable Technical Specification OPERABILITY requirements and is to be removed from the Technical Specifications.

L.11 CTS 4.8.1.1.2.b requires checking for and removing accumulated water from the DG day tanks every 31 days and "after each operation of the diesel where the period of operation was greater than or equal to 1 hour." Proposed SR 3.8.1.5 only requires the check every 31 days; the frequency of "after each operation of the diesel where the period of operation was greater than or equal to 1 hour" has been deleted. Water condensation within the fuel oil tanks is a time dependent process, not a process dependent on the transfer of fuel oil during DG operation. Since it is the expectation that the DG will not be operated except for the nominal monthly OPERABILITY tests (and based on experience), no increased Frequency is necessary.

L.12 The phrase "actual or", in reference to the loss of offsite power signal or the ECCS actuation signal, as applicable, has been added to CTS 4.8.1.1.2.d.4, 4.8.1.1.2.d.5, 4.8.1.1.2.d.6, 4.8.1.1.2.d.7, and 4.8.1.1.2.d.11 (proposed SRs 3.8.1.11, 3.8.1.12, 3.8.1.19, 3.8.1.13, and 3.8.1.17, respectively) for verifying the proper response of the DG. This allows satisfactory loss of offsite power or ECCS actuations for other than Surveillance purposes to be used to fulfill the Surveillance Requirement. OPERABILITY is adequately demonstrated in either case since the DG cannot discriminate between "actual" or "simulated" signals.

L.13 The manner in which the DG is started for CTS 4.8.1.1.2.d.8 (i.e., that the DG must be within the proper voltage and frequency within a certain time limit after the start signal) has not been included in proposed SR 3.8.1.14. While this test can be performed only after a fast start, the manner in which the DG is started does not affect the test. In addition, maintaining voltage and frequency (as required by CTS 4.8.1.1.2.d.8) is routine for this test to ensure the loads are maintained within the necessary limits, and does not need to be specified. Other Surveillance Requirements being maintained in the ITS (e.g., CTS 4.8.1.1.2.a.4, proposed SR 3.8.1.7) continue to require verifying the DG start time and voltage and frequency limits. If these limits are found not to be met during the performance of proposed SR 3.8.1.14, then the DG would be declared inoperable. As a result, these requirements are not necessary to be included in the Technical Specifications to ensure the diesel generators are maintained OPERABLE.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.14 CTS 4.8.1.1.2.d.13, which verifies the DG lockout features prevent DG operation only when required, is proposed to be deleted. If a DG lockout feature prevents the DG from operating during an accident, this will still be identified during the LOCA, LOOP, and LOCA/LOOP DG Surveillances (proposed SRs 3.8.1.11, 3.8.1.12, and 3.8.1.19), which are currently performed at the same periodicity as this Surveillance. It will also be identified during the normal 31 day test, proposed SR 3.8.1.2. Failure of a lockout feature to properly lockout a DG is not a concern as it relates to meeting accident analysis assumptions, since the DG would already be assumed not to be functioning (the lockout features are used to prevent the DG from starting on an accident signal). Therefore, removal of this Surveillance from the Technical Specifications will have no effect on DG OPERABILITY.

L.15 Explicit post maintenance Surveillance Requirements as required by CTS 4.8.1.1.2.e (i.e., after any modifications which could affect DG interdependence) have been deleted. Any time the OPERABILITY of a system or component has been affected by repair, maintenance, or replacement of a component, post maintenance testing is required to demonstrate OPERABILITY of the system or component. After restoration of a component that caused a required SR to be failed, ITS SR 3.0.1 requires the appropriate SRs (in this case, SR 3.8.1.20) to be performed to demonstrate the OPERABILITY of the affected components. Therefore, explicit post maintenance Surveillance Requirements are not repaired and have been deleted from the Technical Specifications.

L.16 The requirement to perform CTS 4.8.1.1.2.e during shutdown has not been included in proposed SR 3.8.1.20. The proposed Surveillance (to simultaneously start all three DGs) does not include the restriction on plant conditions. The Surveillance can be adequately tested in the operating conditions without jeopardizing safe plant operations, since the Surveillance does not require the DGs to be connected to their respective buses; the Surveillance only requires a start of the DGs. The control of plant conditions appropriate to perform the Surveillance is an issue for procedures and scheduling, and has been determined by the NRC Staff to be unnecessary as a Technical Specification restriction. As indicated in Generic Letter 91-04, allowing this control is consistent with the vast majority of other Technical Specification Surveillances that do not dictate plant conditions for the Surveillance.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.17 CTS 3.0.5 provides an allowance that required feature(s) supported by an inoperable AC source may be considered OPERABLE provided the redundant required feature(s) are OPERABLE. However, if these requirements are not satisfied, CTS 3.0.5 requires the unit to be placed in Startup within 6 hours, Hot Shutdown within following 6 hours, and in Cold Shutdown within the subsequent 24 hours. In lieu of a shutdown, ITS LCO 3.8.1 ACTIONS A, B, C, and D include requirements to declare required feature(s) supported by the inoperable AC source inoperable when the redundant required feature(s) are inoperable. ITS 3.8.1 ACTION A (one required offsite circuit inoperable) allows 24 hours before declaring the equipment supported by the inoperable AC source inoperable, ITS 3.8.1 ACTIONS B and C (one required DG inoperable) allow 4 hours before the affected supported equipment must be declared inoperable, and ITS 3.8.1 ACTION D (two required offsite circuits inoperable) allows 12 hours before the affected supported equipment must be declared inoperable. By declaring the affected supported equipment inoperable, and as a result, taking the Technical Specifications actions of the affected supported equipment, unit operation is maintained within the bounds of the Technical Specifications and approved ACTIONS. Since the AC sources support the OPERABILITY of the affected equipment, it is appropriate that the proper action, in this condition, would be to declare that affected supported equipment inoperable. CTS 3.0.5 is overly restrictive, in that if the associated supported equipment were inoperable for other reasons and the redundant equipment was also inoperable, a restoration time is provided, in some cases, in the CTS system specifications. The 24 hour Completion Time when one required offsite circuit is inoperable is acceptable because: a) the redundant counterpart to the inoperable required feature is still OPERABLE although single failure protection may have been lost; b) the capacity and capability of the remaining AC sources is still available; c) a reasonable time for repairs is provided for restoration before the unit is subjected to transients associated with shutdown; and d) the low probability of a DBA occurring during this period. The 12 hour Completion Time when two required offsite circuits are inoperable is acceptable because Regulatory Guide 1.93 allows a Completion Time of 24 hours for two required offsite circuits inoperable. When a concurrent redundant required function is inoperable, a shorter Completion Time of 12 hours is appropriate. The 4 hour Completion Time with one required DG inoperable takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature and is considered to be less of a risk than subjecting the unit to transients associated with shutdown. Additionally, the 4 hour Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and low probability of a DBA occurring during this period.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.18 CTS 3.8.1.1 Action a requires one inoperable offsite circuit to be restored to OPERABLE status within 72 hours. This allowance has been extended to 7 days consistent with the current allowance in CTS 3.8.2.1 part d and Action c. CTS 3.8.2.1 part d requires the Unit 2 Division 1 4160 volt bus and breaker 2414 for Unit 1 and 1414 for Unit 2 to be OPERABLE or closed. With these requirements not met, CTS 3.8.2.1Action c requires restoration within 7 days. These buses and breakers make up a portion of the qualified offsite circuits for the two units. Since this portion of the alternate circuit is necessary to ensure the alternate qualified circuit to the Division 1 emergency bus is OPERABLE, inoperabilities in the remaining portions of the qualified offsite circuits should not have more restrictive out-of-service times (i.e., 72 hours). The proposed 7 day out-of-service time is consistent with the out-of-service times allowed in the CTS for qualified offsite circuits at Quad Cities 1 and 2 and Dresden 2 and 3. The designs of the Quad Cities and Dresden qualified offsite circuits are similar to the design of the LaSalle qualified offsite circuits. With one qualified offsite circuit inoperable, another offsite AC source (qualified offsite circuit) is still available to effect a safe shutdown and to mitigate the effects of an accident. In addition, the onsite AC sources (DGs) have not been degraded in this condition and are available to mitigate effects of an accident and maintain the units in a safe shutdown condition in the event of a Design Basis Accident (DBA) or transient on one of the units. In fact, a simultaneous loss of offsite AC sources, a LOCA, and a worst case single failure are postulated as part of the design basis in the safety analysis. In addition, the configuration of the onsite AC sources (DGs) is such that they are not susceptible to a single failure which can cause more than one DG to become inoperable. (At LaSalle as many as three of the four required DGs are required to mitigate the consequences of a DBA or transient and maintain the units in safe shutdown.) Therefore, the 7 day out-of-service time for this condition is considered acceptable since the capability still exists to mitigate the effects of a DBA and maintain the units in safe shutdown. The proposed change may also allow a shutdown transient to be avoided if the plant is required to enter a shutdown action after the current 72 hour out-of-service time has expired.

L.19 If an offsite circuit is inoperable only due to its inability to provide power to the Division 3 electrical power distribution subsystem, CTS 3.8.1.1 Action a would require a unit shutdown if the offsite circuit is not restored to OPERABLE status within 72 hours. ITS 3.8.1 provides an Applicability Note which, in the event the HPCS System is inoperable, allows the associated offsite circuits to not be required to be OPERABLE for Division 3. (ITS 3.8.1 would still require these

TECHNICAL CHANGES - LESS RESTRICTIVE

L.19 (cont'd) offsite circuits to be OPERABLE for the remaining required Divisions.) Thus, at the end of the current 72 hour restoration time, the ITS Note would allow the HPCS System to be declared inoperable, and the ACTIONS in ITS 3.5.1 would be taken to restore the HPCS System to OPERABLE status. The ACTIONS of ITS 3.5.1 allow 14 days to restore the HPCS System to OPERABLE status. The overall effect of this change is to allow an additional 14 days to restore the circuit to OPERABLE status, since this is the only way to restore the HPCS System to OPERABLE status under this condition. The 14 day allowance is consistent with the allowance already provided in CTS 3.8.1.1 Action d for when the HPCS DG is inoperable. The two conditions (i.e., loss of the offsite circuit and loss of the DG) are essentially the same; the HPCS System can still perform its intended function, however, it only has one source of power. In addition, CTS 3.5.1 currently allows the HPCS System to be inoperable for up to 14 days for other reasons that will preclude it from performing its intended function. Since the NRC has previously approved the 14 day allowance for when the HPCS DG is inoperable, as well as when the HPCS System is inoperable for other reasons, this change is considered acceptable. In addition, this 14 day time for when the HPCS System is inoperable is also consistent with the memorandum from R. L. Baer (NRC) to V. Stello Jr. (NRC), "Recommended Interim Revisions to LCO's for ECCS Components," December 1, 1975.

RELOCATED SPECIFICATIONS

None

ELECTRICAL POWER SYSTEMS

A.C. SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO 3.8.2 3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE: M.1

LCO 3.8.2.a a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and M.2

LCO 3.8.2.b LCO 3.8.2.c LCO 3.8.2.d b. Diesel generator 0 or 1A, and diesel generator 1B when the HPCS system is required to be OPERABLE, and diesel generator 2A when the offsite power source for standby gas treatment system subsystem B or control room and auxiliary electric equipment room emergency filtration system train B is inoperable and either or both systems are required to be OPERABLE, with each diesel generator having:

SR 3.8.2.1 1. For diesel generator 0, 1A and 2A:

a) A separate day fuel tank containing a minimum of 250 gallons of fuel. A.2

b) A separate fuel storage system containing a minimum of 31,000 gallons of fuel. A.3 moved to ITS 3.8.3

SR 3.8.2.1 2. ~~For diesel generator 1B, a separate fuel storage tank/day tank containing a minimum of 29,750 gallons of fuel.~~ 550 gallons of fuel A.2 M.3

A.2 3. ~~A fuel transfer pump.~~ LA.1

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *. A.4

ACTION: Add proposed ACTION A Note Add proposed Required Action A.1 M.1

ACTIONS A AND B a. With all offsite circuits inoperable and/or with diesel generators 0 or 1A inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel. Add Required Actions A.2.4 and B.4 M.4

ACTION C b. With diesel generator 1B inoperable, restore the inoperable diesel generator 1B to OPERABLE status within 72 hours or declare the HPCS system inoperable ~~and take the ACTION required by Specification 3.5.2 and 3.5.3.~~ A.5

Applicability *When handling irradiated fuel in the secondary containment.

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

ACTION D c. With diesel generator 2A inoperable, declare standby gas treatment system subsystem B and control room and auxiliary electric equipment room emergency filtration system train B inoperable ~~and take the ACTION required by Specifications 3.6.5.3 and 3.7.2.~~ A.5

ACTIONS NOTE d. The provisions of Specification 3.0.3 are not applicable.

add proposed SR 3.8.2.1 Note 1 L.1

add proposed SR 3.8.2.1 Note 2 L.2

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1

4.8.1.2 At least the above required A.C. electrical power sources shall be demonstrated OPERABLE per Surveillance Requirements 4.8.1.1.1; 4.8.1.1.2 and 4.8.1.1.3, except for the requirement of 4.8.1.1.2.a.5. A.6

SR 3.8.2.1 NOTE 1

movement of certain requirements to ITS 3.8.3 A.3

Add exception to CTS SR 4.8.1.1.1.b (i.e. ITS SR 3.8.1.8)

Add exception to CTS SR 4.8.1.1.2.d.11 (i.e., ITS SR 3.8.1.17)

Add exception to CTS SR 4.8.1.1.2.e (i.e., ITS SR 3.8.1.20)

A.7

A.1

ELECTRICAL POWER SYSTEMS

A.C. SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

M.1

LCO 3.8.2 3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE: M.2

LCO 3.8.2.a a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and

LCO 3.8.2b LCO 3.8.2.c LCO 3.8.2.d b. Diesel generator 0 or 2A, and diesel generator 2B when the HPCS system is required to be OPERABLE, and diesel generator 1A when the offsite power source for standby gas treatment system subsystem A or control room and auxiliary electric equipment room emergency filtration system train A is inoperable and either or both systems are required to be OPERABLE, with each diesel generator having:

SR 3.8.2.1 1. For diesel generator 0, 1A, and 2A:

a) A separate day fuel tank containing a minimum of 250 gallons of fuel. A.2

b) A separate fuel storage system containing a minimum of 31,000 gallons of fuel. A.3 moved to ITS 3.8.3

SR 3.8.2.1 2. For diesel generator 2B, a separate fuel storage tank/day tank containing a minimum of 29,750 gallons of fuel. 550 gallons of fuel A.2 M.3

A.2 3. A fuel transfer pump. LA.1

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *. A.4 M.1

ACTION: Add proposed ACTION A Note

Add proposed Required Action A.1

ACTIONS A and B a. With all offsite circuits inoperable and/or with diesel generators 0 or 2A inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel. M.4 Add Required Actions A.2.4 and B.4

ACTION C b. With diesel generator 2B inoperable, restore the inoperable diesel generator 2B to OPERABLE status within 72 hours or declare the HPCS system inoperable and take the ACTION required by Specifications 3.5.2 and 3.5.3. A.5

ACTION D c. With diesel generator 1A inoperable, declare standby gas treatment system subsystem A and control room and auxiliary electric equipment room emergency filtration system train A inoperable and take the ACTION required by Specifications 3.6.5.3 and 3.7.2. A.5

ACTIONS NOTE d. The provisions of Specification 3.0.3 are not applicable.

Applicability *When handling irradiated fuel in the secondary containment.

A.1

L.1

L.2

ELECTRICAL POWER SYSTEMS

add proposed SR 3.8.2.1 Note 1

add proposed SR 3.8.2.1 Note 2

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1 4.8.1.2 At least the above required A.C. electrical power sources shall be demonstrated OPERABLE per Surveillance Requirements 4.8.1.1.1; 4.8.1.1.2, and 4.8.1.1.3, except for the requirement of 4.8.1.1.2.a.5. A.6

SR 3.8.2.1 Note 1

Movement of certain requirements to ITS 3.8.3

A.3

Add exception to CTS SR 4.8.1.1.1.b (i.e., ITS SR 3.8.1.8)

Add exception to CTS SR 4.8.1.1.2.d.11 (i.e., ITS SR 3.8.1.17)

Add exception to CTS SR 4.8.1.1.2.e (i.e., ITS SR 3.8.1.20)

A.7

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that 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 BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 The details relating to the required day tank level in CTS 3.8.1.2.b.1.a) and 3.8.1.2.b.2 have been moved to proposed SR 3.8.2.1, which requires performance of SR 3.8.1.4. No technical changes are being made; therefore, this change is considered administrative in nature.

A.3 The technical content of the fuel oil storage requirements in CTS LCOs 3.8.1.2.b.1.b and 3.8.1.2.b.2, and certain requirements of CTS SR 4.8.1.2 are being moved to ITS 3.8.3. This is in accordance with the format of the BWR ISTS, NUREG-1434, Rev. 1. Any technical changes to these requirements will be addressed in the Discussion of Changes for ITS: 3.8.3.

A.4 AC Sources are considered a support system to the Distribution System (ITS 3.8.8). In the event AC Sources are inoperable such that a distribution subsystem were inoperable, ITS LCO 3.0.6 would allow taking only the AC Sources ACTIONS; taking exception to complying with the AC Distribution System ACTIONS. Since the AC Sources ACTIONS may not be sufficiently conservative in this event (e.g., RHR-SDC could be inoperable), specific direction to take appropriate ACTIONS for the Distribution System is added (proposed Note to ITS 3.8.2 ACTION A). This format and construction implements the existing treatment of this condition within the framework of the LaSalle 1 and 2 ITS methods.

A.5 CTS 3.8.1.2 Action b requires the HPCS System to be declared inoperable and to take the ACTION required by Specifications 3.5.2 and 3.5.3 when the Division 3 DG is inoperable. CTS 3.8.1.2 Action c requires the standby gas treatment subsystem and the control room and auxiliary electrical equipment room emergency filtration subsystem to be declared inoperable and take the action required by Specifications 3.6.5.3 and 3.7.2 in the event the opposite unit's Division 2 DG is inoperable. The format of the ITS does not include providing "cross references." ITS 3.5.2, 3.6.4.3, 3.7.4, and 3.7.5 adequately prescribe the Required Actions for an inoperable HPCS System, SGT subsystem, control room area filtration subsystem, or control room area ventilation air

ADMINISTRATIVE

A.5 (cont'd) conditioning subsystem, respectively, without such references. Therefore, the existing reference in CTS 3.8.1.2 Action b to "take the ACTION required by Specification 3.5.2 and 3.5.3" in CTS 3.8.1.2 Action c to "take the ACTION required by Specifications 3.6.5.3 and 3.7.2" serve no functional purpose, and their removal is purely an administrative difference in presentation.

A.6 CTS SR 4.8.1.2 contains a reference to CTS 4.8.1.1.3. However, CTS SR 4.8.1.1.3 was deleted in Amendments 109 (Unit 1) and 94 (Unit 2). Therefore, the elimination of this reference is an administrative change.

A.7 For clarity, an exception to CTS 4.8.1.1.2.e (proposed SR 3.8.1.20) has been added. This Surveillance is currently not required since it ensures all the DGs are OPERABLE (and no more than two unit DGs are required while in MODES 4 and 5 and handling irradiated fuel assemblies in the secondary containment). In addition, two other exceptions have been included for clarity. CTS 4.8.1.1.1.b (proposed SR 3.8.1.8) is excluded since only one offsite circuit is required to be OPERABLE. CTS 4.8.1.1.2.d.11 (proposed SR 3.8.1.17), the requirement to verify the DG capability to return to the ready-to-load condition when in the test mode and an ECCS initiation signal is present, is also excluded since the required DG is not required by CTS to undergo periods of being synchronized to the offsite circuit.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The existing requirement of CTS LCO 3.8.1.2.a for one offsite circuit to be OPERABLE during shutdown conditions is not specific as to what that circuit must be powering. The requirement in ITS LCO 3.8.2.a specifies that the circuit must be available to supply power to equipment required to be OPERABLE in the current plant condition. This added restriction conservatively assures the needed offsite circuit is powering AC loads required to be OPERABLE. Since the ITS 3.8.2 circuit OPERABILITY requirements are proposed to require them capable of supplying power to necessary electrical power distribution subsystems, if one or more subsystems are not capable of being powered via an offsite circuit, that circuit is inoperable. In this event it may not be necessary to suspend all CORE ALTERATIONS, irradiated fuel handling, and OPDRVs as required by CTS 3.8.1.2 Action a. Conservative actions can be assured if all required equipment without capability of offsite power is declared inoperable and the associated ACTIONS of the individual equipment taken (ITS 3.8.2 Required Action A.1). Therefore, along with the

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 (cont'd) conservative additional requirements placed on the OPERABLE circuit, Required Action A.1, which requires the associated supported equipment to be declared inoperable, is also added. These additions represent restrictions consistent with implicit assumptions for operation in shutdown conditions (required equipment capable of being powered from offsite power as opposed to being powered by a DG); restrictions which are not currently imposed via the Technical Specifications.

M.2 Similar to the added restrictions for an OPERABLE offsite circuit (refer to Discussion of Change M.1 above), the single Division 1 or Division 2 unit DG required OPERABLE during shutdown conditions by CTS LCO 3.8.2.b, is not specific as to what Division that DG must be associated with. The requirement in ITS LCO 3.8.2 will ensure the OPERABLE DG is associated with one or more systems, subsystems, or components required to be OPERABLE. This added restriction enforces a level of Technical Specification control which currently is enforced only via administrative procedures.

M.3 Currently, CTS 3.8.1.2.b.2 requires that the combined fuel oil volume of the Division 3 DG (1B and 2B) fuel storage tank and day tank be ≥ 29750 gallons. No minimum volume for the day tank is provided; i.e., all the fuel oil can be in the fuel storage tank and the LCO requirement is met. To ensure that the day tank maintains a fuel oil volume sufficient to operate the DG for 50 minutes without makeup, a new requirement is added to ITS SR 3.8.2.1 (by the reference to ITS SR 3.8.1.4) for the Division 3 DG to maintain 550 gallons of fuel oil in the day tank. Since this change adds an additional requirement that is not currently in the CTS, this change is considered more restrictive.

M.4 When a required offsite circuit or a Division 1 or 2 unit DG is inoperable, the actions imposed by CTS 3.8.1.2 Action a do not necessarily place the unit in a MODE or other specified condition in which CTS LCO 3.8.1.2 is not applicable. Therefore, proposed ITS 3.8.1.2 Required Actions A.2.4 and B.4 are being added. These Required Actions implement a requirement to immediately initiate action to restore the required power sources to an OPERABLE status. These additional restrictions are consistent with implicit assumptions and will ensure action is immediately taken to restore compliance with the LCO requirements. Since this new requirement is not currently imposed by the CTS, the proposed change is an additional restriction on plant operation.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The CTS 3.8.1.2.b.3 detail relating to system design and OPERABILITY (i.e., that each DG has a fuel oil transfer pump) is proposed to be relocated to the Bases. The details for system OPERABILITY are not necessary in the LCO. The definition of OPERABILITY suffices. The design details are not necessary to be included in the Technical Specifications to ensure the OPERABILITY of the DGs since OPERABILITY requirements are adequately addressed in ITS 3.8.2, "AC Sources—Shutdown." As such, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

"Specific"

L.1 Many of the currently required Surveillances specified in CTS 4.8.1.2 involve tests that would require the DG to be paralleled to offsite power. This condition (the only required DG and the only required offsite circuit connected) presents a significant risk of a single fault resulting in a station blackout. The NRC has previously recognized this in the exception stated in CTS 4.8.1.2 (4.8.1.1.2.a.5) and provided a surveillance exception to the 1 hour diesel generator load test to avoid this condition. In an effort to consistently address this concern and to avoid potential conflicting Technical Specifications, the Surveillances that would require the DG to be connected to the offsite source are excepted from performance requirements. Other Surveillances that would render the DG inoperable, require de-energizing a required 4.16 kV emergency bus, or require disconnecting a required offsite circuit. The exception does not take exception to the requirement for the DG to be capable of performing the particular function; just to the requirement to demonstrate it while that source of power is being relied on to support meeting the LCO. The exception is being presented in the form of a Note to proposed SR 3.8.2.1 and excludes proposed SR 3.8.1.3 (DG 1 hour load test), SR 3.8.1.9 (DG single largest load reject test), SR 3.8.1.10 (DG full load reject test), SR 3.8.1.11 (loss of power test), SR 3.8.1.13 (bypass of automatic trips), SR 3.8.1.14 (DG 24 hour run), SR 3.8.1.1.15 (DG hot start test), SR 3.8.1.16 (DG synchronization test), SR 3.8.1.18 (DG load block test), and SR 3.8.1.19 (ECCS simulation test).

L.2 CTS 4.8.1.2, which provides the Surveillance Requirements for the AC Sources while in Modes 4 and 5 and during handling of irradiated fuel in the secondary containment, requires the Surveillances of CTS 4.8.1.1.2 to be performed. Two of the Surveillances of CTS 4.8.1.1.2 are the DG start on an ECCS initiation signal (CTS 4.8.1.1.2.d.5) and the DG start and load on an ECCS initiation

TECHNICAL CHANGES - LESS RESTRICTIVE

L.2 (cont'd) signal concurrent with a loss of offsite power signal (CTS 4.8.1.1.2.d.6). Proposed Note 2 to SR 3.8.2.1 will exempt these two Surveillances (proposed SRs 3.8.1.12 and 3.8.1.19) when the associated ECCS subsystem(s) are not required to be Operable. The CTS and ITS do not require the ECCS subsystem(s) to be Operable in Mode 5 when the spent fuel storage pool gates are removed and water level is ≥ 22 ft over the top of the reactor pressure vessel flange. The CTS and ITS also do not require the ECCS subsystem(s) to be Operable when defueled. The DGs are required to support the equipment powered from the emergency buses. However, when the ECCS subsystem(s) are not required to be Operable, then there is no reason to require the DGs to autostart on an ECCS initiation signal. In addition, the ECCS initiation signal is only an anticipatory start signal; the DGs are only needed during a LOCA if a loss of offsite power occurs concurrently. The DGs are also required to autostart if a loss of offsite power occurs. The requirement to autostart the required DG(s) on a loss of offsite power signal is being maintained in the ITS (proposed SR 3.8.1.11). Thus, when in these conditions (associated ECCS subsystem(s) not required to be Operable), there is no reason to require the DGs to be capable of automatically starting on an ECCS actuation signal (either by itself or concurrent with a loss of offsite power signal).

RELOCATED SPECIFICATIONS

None

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

A.1

A.C. SOURCES - OPERATING

ITS 3.8.3

LIMITING CONDITION FOR OPERATION

add proposed fuel oil storage tank and Starting air LCO

A2

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and

b. Separate and independent diesel generators* 0, 1A, 2A and 1B with:

1. For diesel generator 0, 1A and 2A:

a) A separate day fuel tank containing a minimum of 250 gallons of fuel.

SR3.8.3.1

b) A separate fuel storage system containing a minimum of 31,000 gallons of fuel.

2. For diesel generator 1B, a separate fuel storage tank and a day tank containing a minimum of 29,750 gallons of fuel.

A3

3. A separate fuel transfer pump.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

A2

ACTION:

a. With one offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 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 the 0 or 1A diesel generator inoperable, demonstrate the OPERABILITY of the above required A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE

add proposed ACTIONS A,B,C,D, and E and ACTIONS Note

L.1

*See page 3/4 8-1(a).

See ITS 3.8.1

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by manually transferring unit power supply from the normal circuit to the alternate circuit.

4.8.1.1.2 Each of the above required diesel generators shall be demonstrated OPERABLE:*

L.2

a. At least once per 31 days on a STAGGERED TEST BASIS by:

SR3.8.3.1 (Div 3 DG, only) 1. Verifying the fuel level in the day fuel tank.

SR3.8.3.1 2. Verifying the fuel level in the fuel storage tank.

3. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day fuel tank.

4. Verifying the diesel starts from ambient condition and accelerates to 900 rpm +5%, -2% in less than or equal to 13 seconds**. The generator voltage and frequency shall be 4160 ±150 volts and 60 + 3.0, -1.2 Hz within 13 seconds** after the start signal.

5. Verifying the diesel generator is synchronized, and then loaded to 2400 kW to 2600 kW*** in accordance with the manufacturer's recommendations, and operates with this load for at least 60 minutes.

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*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.

**Surveillance testing to verify the diesel generator start (13 second) time from ambient conditions shall be performed at least once per 184 days. All other engine starts performed for the purpose of meeting these surveillance requirements may be conducted in accordance with warmup and loading procedures, as recommended by the manufacturer, in order to minimize mechanical stress and wear on the diesel generator caused by fast starting of the diesel generator.

***Transients, outside of this load band, do not invalidate the surveillance tests.

(See ITS 3.8.1)

6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

SR 3.8.3.3 7. Verifying the pressure in required diesel generator air start receivers to be greater than or equal to 200 psig.

b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the day fuel tanks.

add proposed SR 3.8.3.2

A.4

c. By sampling and analyzing stored and new fuel oil in accordance with the following:

1. At least once per 92 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained and tested in accordance with the applicable ASTM Standards has:

a) A water and sediment content within applicable ASTM limits.

b) A kinematic viscosity at 40°C within applicable ASTM limits.

2. At least every 31 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained in accordance with the applicable ASTM Standard has a total particulate contamination of less than 10 mg/l when tested in accordance with the applicable ASTM Standard.

moved to ITS Section 5.5

A.4

d. At least once per 18 months during shutdown by:

1. (Not used).

2. Verifying the diesel generator capability* to reject a load of greater than or equal to 1190 kW for diesel generator 0, greater than or equal to 638 kW for diesel generators 1A and 2A, and greater than or equal to 2421 kW for diesel generator 1B while maintaining engine speed less than or equal to 75% of the difference between nominal speed and the overspeed trip setpoint or 15% above nominal, whichever is less.

3. Verifying the diesel generator capability* to reject a load of 2600 kW without tripping. The generator voltage shall not exceed 5000 volts during and following the load rejection.

4. Simulating a loss of offsite power* by itself, and:

---

*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.

(See ITS 3.8.1)

a) Generator underfrequency.
b) Low lube oil pressure.
c) High jacket cooling temperature.
d) Generator reverse power.
e) Generator overcurrent.
f) Generator loss of field.
g) Engine cranking lockout.

e. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting diesel generators 0, 1A, and 1B simultaneously,* during shutdown, and verifying that all three diesel generators accelerate to 900 rpm +5, -2% in less than or equal to 13 seconds.

~~f. At least once per 10 years by:~~

~~1. Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite or equivalent solution, and~~

~~2. Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND, of the ASME Code in accordance with ASME Code Section 11, Article IWD-5000.~~ L.3

4.8.1.1.3 Reports - (Not used).

See ITS 3.8.1

*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.

A.C. SOURCES - SHUTDOWN

A.1

LIMITING CONDITION FOR OPERATION

add proposed fuel oil storage tank and starting air LCO

ITS 3.8.3

A.2

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the onsite Class IE distribution system, and

b. Diesel generator 0 or 1A, and diesel generator 1B when the HPCS system is required to be OPERABLE, and diesel generator 2A when the offsite power source for standby gas treatment system subsystem B or control room and auxiliary electric equipment room emergency filtration system train B is inoperable and either or both systems are required to be OPERABLE, with each diesel generator having:

1. For diesel generator 0, 1A and 2A:

a) A separate day fuel tank containing a minimum of 250 gallons of fuel.

SR 3.8.3.1

b) A separate fuel storage system containing a minimum of 31,000 gallons of fuel.

2. For diesel generator 1B, a separate fuel storage tank/day tank containing a minimum of 29,750 gallons of fuel.

A.3

3. A fuel transfer pump.

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

A.2

ACTION:

a. With all offsite circuits inoperable and/or with diesel generators 0 or 1A inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

b. With diesel generator 1B inoperable, restore the inoperable diesel generator 1B to OPERABLE status within 72 hours or declare the HPCS system inoperable and take the ACTION required by Specification 3.5.2 and 3.5.3.

*When handling irradiated fuel in the secondary containment.

A.2

See ITS 3.8.2

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

c. With diesel generator 2A inoperable, declare standby gas treatment system subsystem B and control room and auxiliary electric equipment room emergency filtration system train B inoperable and take the ACTION required by Specifications 3.6.5.3 and 3.7.2.

d. The provisions of Specification 3.0.3 are not applicable.

add proposed ACTIONS A, B, C, D, and E and ACTIONS NOTE L.1

SURVEILLANCE REQUIREMENTS

SR3.8.3.1 SR3.8.3.2 SR3.8.3.3 4.8.1.2 At least the above required A.C. electrical power sources shall be demonstrated OPERABLE per Surveillance Requirements 4.8.1.1.1; 4.8.1.1.2 and 4.8.1.1.3, except for the requirement of 4.8.1.1.2.a.5.

portions not applicable to fuel oil or starting air

See ITS 3.8.2

3/4.8.1 A.C. SOURCES

A.C. SOURCES - OPERATING A.1 ITS 3.8.3

LIMITING CONDITION FOR OPERATION

add proposed fuel oil storage tank and starting air LCO A.2

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and

b. Separate and independent diesel generators* 0, 1A, 2A and 2B with:

1. For diesel generator 0, 1A and 2A:

a) A separate day fuel tank containing a minimum of 250 gallons of fuel.

b) A separate fuel storage system containing a minimum of 31,000 gallons of fuel. A.3

SR 3.8.3.1 2. For diesel generator 2B, a separate fuel storage tank and a day tank containing a minimum of 29,750 gallons of fuel.

3. A separate fuel transfer pump.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3. A.2

ACTION:

a. With one offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 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 the 0 or 2A diesel generator inoperable, demonstrate the OPERABILITY of the above required A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE

add proposed ACTIONS A, B, C, D, and E and ACTIONS Note L.1

*See page 3/4 8-1(a).

See ITS 3.8.1

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by manually transferring unit power supply from the normal circuit to the alternate circuit.

4.8.1.1.2 Each of the above required diesel generators shall be demonstrated OPERABLE:*

a. At least once per 31 days on a STAGGERED TEST BASIS by: L.2

SR3.8.3.1 (Div 3 DG, only) 1. Verifying the fuel level in the day fuel tank.

SR3.8.3.1 2. Verifying the fuel level in the fuel storage tank.

3. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day fuel tank.

4. Verifying the diesel starts from ambient condition and accelerates to 900 rpm + 5%, -2% in less than or equal to 13 seconds**. The generator voltage and frequency shall be 4160 ±150 volts and 60 + 3.0, -1.2 Hz within 13 seconds** after the start signal.

5. Verifying the diesel generator is synchronized, and then loaded to 2400 kW to 2600 kW*** in accordance with the manufacturer's recommendations, and operates with this load for at least 60 minutes.

---

*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.

**Surveillance testing to verify the diesel generator start (13 second) time from ambient conditions shall be performed at least once per 184 days. All other engine starts performed for the purpose of meeting these surveillance requirements may be conducted in accordance with warmup and loading procedures, as recommended by the manufacturer, in order to minimize mechanical stress and wear on the diesel generator caused by fast starting of the diesel generator.

***Transients, outside of this load band, do not invalidate the surveillance tests.

(See ITS 3.8.1)

ITS 3.8.3

A.1

SURVEILLANCE REQUIREMENTS

6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

SR3.8.3.3 7. Verifying the pressure in required diesel generator air start receivers to be greater than or equal to 200 psig.

Add proposed SR3.8.3.2

A.4

b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the day fuel tanks.

c. By sampling and analyzing stored and new fuel oil in accordance with the following:

1. At least once per 92 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained and tested in accordance with the applicable ASTM Standards has:

a) A water and sediment content within applicable ASTM limits.

b) A kinematic viscosity at 40°C within applicable ASTM limits.

2. At least every 31 days, and for new fuel oil prior to addition to the storage tanks, that a sample obtained in accordance with the applicable ASTM Standard has a total particulate contamination of less than 10 mg/l when tested in accordance with the applicable ASTM Standard.

moved to ITS Section 5.5

A.4

d. At least once per 18 months during shutdown by:

1. (Not Used).

2. Verifying the diesel generator capability* to reject a load of greater than or equal to 1190 kW for diesel generator 0, greater than or equal to 638 kW for diesel generators 1A and 2A, and greater than or equal to 2421 kW for diesel generator 2B while maintaining engine speed less than or equal to 75% of the difference between nominal speed and the overspeed trip setpoint or 15% above nominal, whichever is less.

3. Verifying the diesel generator capability* to reject a load of 2600 kW without tripping. The generator voltage shall not exceed 5000 volts during and following the load rejection.

4. Simulating a loss of offsite power* by itself, and:

*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.

See ITS 3.8.1

 A.1 ITS 3.8.3

a) Generator underfrequency.
b) Low lube oil pressure.
c) High jacket cooling temperature.
d) Generator reverse power.
e) Generator overcurrent.
f) Generator loss of field.
g) Engine cranking lockout.

e. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting diesel generators 0, 2A, and 2B simultaneously*, during shutdown, and verifying that all three diesel generators accelerate to 900 rpm + 5, -2% in less than or equal to 13 seconds.

~~f. At least once per 10 years by:~~

~~1. Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite or equivalent solution, and~~

~~2. Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND, of the ASME Code in accordance with ASME Code Section 11, Article IWD-5000.~~ L.3

4.8.1.1.3 Reports - (Not Used).

⟨See ITS 3.8.1⟩

*All planned diesel generator starts performed for the purpose of meeting these surveillance requirements may be preceded by an engine prelube period, as recommended by the manufacturer.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES - SHUTDOWN

add proposed fuel oil storage tank and starting air LCO A.2

A.1

LIMITING CONDITION FOR OPERATION

ITS 3.8.3

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and

b. Diesel generator 0 or 2A, and diesel generator 2B when the HPCS system is required to be OPERABLE, and diesel generator 1A when the offsite power source for standby gas treatment system subsystem A or control room and auxiliary electric equipment room emergency filtration system train A is inoperable and either or both systems are required to be OPERABLE, with each diesel generator having:

1. For diesel generator 0, 1A, and 2A:

a) A separate day fuel tank containing a minimum of 250 gallons of fuel.

SR 3.8.3.1

b) A separate fuel storage system containing a minimum of 31,000 gallons of fuel.

2. For diesel generator 2B, a separate fuel storage tank/day tank containing a minimum of 29,750 gallons of fuel. A.3

3. A fuel transfer pump.

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *. A.2

ACTION:

a. With all offsite circuits inoperable and/or with diesel generators 0 or 2A inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

b. With diesel generator 2B inoperable, restore the inoperable diesel generator 2B to OPERABLE status within 72 hours or declare the HPCS system inoperable and take the ACTION required by Specifications 3.5.2 and 3.5.3.

c. With diesel generator 1A inoperable, declare standby gas treatment system subsystem A and control room and auxiliary electric equipment room emergency filtration system train A inoperable and take the ACTION required by Specifications 3.6.5.3 and 3.7.2.

d. The provisions of Specification 3.0.3 are not applicable.

*When handling irradiated fuel in the secondary containment. A.2

add proposed ACTIONS A, B, C, D, and E and ACTIONS NOTE L.1

See ITS 3.8.2

SR 3.8.3.1
SR 3.8.3.2
SR 3.8.3.3

4.8.1.2 At least the above required A.C. electrical power sources shall be demonstrated OPERABLE per Surveillance Requirements 4.8.1.1.1; 4.8.1.1.2, and 4.8.1.1.3, except for the requirement of 4.8.1.1.2.a.5.

portions not applicable to fuel oil or starting air

<See ITS 3.8.2>

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that 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 BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 The fuel oil and starting air requirements of CTS 3.8.1.1 and 3.8.1.2 have been moved to a new ITS LCO 3.8.3. An LCO Statement has been provided requiring fuel oil storage and starting air. The Applicability of this new LCO is "when associated DG is required to be OPERABLE." This covers the current MODES 1, 2, 3, 4, and 5 and fuel handling requirements of CTS 3.8.1.1 and 3.8.1.2. These changes are considered administrative in nature. In addition, technical changes have been made, as discussed in the Discussion of Changes below.

A.3 The details relating to the required storage tank levels in CTS 3.8.1.1.b.1.b), CTS 3.8.1.1.b.2, CTS 3.8.1.2.b.1.b), and CTS 3.8.1.2.b.2 have been moved to a Surveillance Requirement (proposed SR 3.8.3.1). No technical changes are being made; therefore, this change is considered administrative in nature.

A.4 The technical content of CTS 4.8.1.1.2.c, which provides the DG fuel oil sampling requirements, is being moved to Specification 5.5.10 of the ITS in accordance with the format of the BWR ISTS, NUREG-1434, Rev. 1. Any technical changes will be addressed in the Discussion of Changes for ITS Section 5.5. A Surveillance Requirement is added (proposed SR 3.8.3.2) to clarity that the tests of the Diesel Fuel Oil Testing Program must also be completed and passed for determining OPERABILITY of the DGs. Since this is a presentation preference that maintains current requirements, this change is considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

None

"Specific"

L.1 The ITS LCO 3.8.3, "Diesel Fuel Oil and Starting Air," reformats some of the existing CTS requirements by providing a separate LCO with requirements for each of the named parameters. The starting air requirements are currently presented as attributes of compliance with the DG LCO, via their presentation as Surveillances. These parameters, while supporting DG OPERABILITY, contain substantial margin in addition to the limits which would be absolutely necessary for DG OPERABILITY. Therefore, certain levels of degradation in these parameters are justified to extend the allowances for restoration (presented as ITS 3.8.3 ACTIONS A, B, C, D, E and ACTIONS Note). During the extended restoration periods for these parameters, the DG would still be capable of performing its intended function. ACTION A allows 48 hours to restore fuel oil level in the storage tanks prior to declaring the DG inoperable, provided fuel oil level is sufficient for 6 days supply. ACTION B allows 7 days to restore stored fuel oil total particulates to within limits prior to declaring the DG inoperable. ACTION C allows 30 days to restore other stored fuel oil properties to within limits. This is because these tests measure long term trending and stability. Even if the fuel oil exceeds these limits with other parameters met, the fuel oil will remain able to support DG operation since when new fuel is added to a stored fuel oil tank it normally only replaces a small portion of the tank volume. ACTION D allows 48 hours to restore starting air pressure prior to declaring the DG inoperable, provided a 1 start capacity remains. ACTION E is provided to declare the DG inoperable if previous ACTIONS are not met. During the proposed extended periods for restoration of these parameters, the DG would still be capable of performing its intended function.

L.2 CTS 4.8.1.1.2.a requires the fuel oil storage tank level and the starting air pressure of each DG to be verified on a STAGGERED TEST BASIS. Proposed SR 3.8.3.1 and SR 3.8.3.3 do not include this requirement. The intent of a requirement for staggered testing is to increase reliability of the component/system being tested. A number of reviews/evaluations have been performed which have demonstrated that staggered testing has negligible impact on component reliability. As a result, it has been determined that staggered testing 1) is operationally difficult, 2) has negligible impact on component reliability, 3) is not as significant as initially thought, and 4) has no impact on failure frequency. Therefore, the staggered testing requirements for diesel fuel oil level and starting air pressure verification have been deleted.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.3 The 10 year Surveillances of CTS 4.8.1.1.2.f to drain, remove sediment, and clean each fuel oil tank, and to perform a pressure test on the DG fuel oil system piping are proposed to be deleted. These Surveillances are preventive maintenance type requirements. Sediment in the tank, or failure to perform these Surveillances, do not necessarily result in an inoperable storage tank. Performance of proposed SR 3.8.3.2 (fuel oil testing) and the limits of the Diesel Fuel Oil Testing Program help ensure tank sediment is minimized. Performance of proposed SR 3.8.3.1 (fuel oil volume verification) once per 31 days ensures that any degradation of the tank wall surface that results in a fuel oil volume reduction is detected and corrected in a timely manner. The pressure test of the fuel oil system is already covered by ASME Code Section XI Article IWD-5000. This requirement is currently implemented in the LaSalle 1 and 2 procedures. As a result, adequate controls exist such that these requirements are unnecessary to maintain in the Technical Specifications.

RELOCATED SPECIFICATIONS

None

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING A.1 <General Description> A.2

LIMITING CONDITION FOR OPERATION

add proposed LCO 3.8.4 A.2

3.8.2.3 The following D.C. distribution system electrical divisions shall be OPERABLE and energized: LA.1

a. Division 1, consisting of:
   1. 125-volt battery 1A.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 111Y.

b. Division 2, consisting of:
   1. 125-volt battery 1B.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 112Y.

c. Division 3, consisting of:
   1. 125-volt battery 1C.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 113.

d. Unit 2 Division 2, consisting of:
   1. 125-volt battery 2B.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 212Y.

See ITS 3.8.7

opposite unit A.1

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

ACTION A / ACTION E a. With either Division 1 or Division 2 inoperable or not energized, restore the inoperable division to OPERABLE and energized 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. See ITS 3.8.7

ACTION B b. With Division 3 inoperable or not energized, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.1. A.3

opposite unit A.1

ACTION D / ACTION E c. With Unit 2 Division 2 inoperable or not energized, restore the inoperable division to OPERABLE and energized 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. See ITS 3.8.7

Page 1 of 10

A.1

See ITS 3.8.7

SURVEILLANCE REQUIREMENTS

4.8.2.3.1 Each of the above required D.C. distribution system electrical divisions shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment, indicated power availability from the charger and battery, and voltage on the panel with an overall voltage of greater than or equal to 125 volts.

4.8.2.3.2 Each 125-volt battery and charger shall be demonstrated OPERABLE:

SR 3.8.4.1

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

1. The parameters in Table 4.8.2.3.2-1 meet the Category A limits, and (A.2) (moved to ITS 3.8.6)

2. Total battery terminal voltage is greater than or equal to 128 volts on float charge.

SR 3.8.4.2

b. At least once per 92 days ~~and within 7 days after a battery discharge with battery voltage below 110 volts, or battery overcharge with battery terminal voltage above 150 volts, by verifying that:~~ (L.1)

1. The parameters in Table 4.8.2.3.2-1 meet the Category B limits, (moved to ITS 3.8.6) (A.2)

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

3. The average electrolyte temperature of at least 10 connected cells is above 60°F. (A.2) (moved to ITS 3.8.6)

c. At least once per ~~18~~ 24 months by verifying that: (LD.1)

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 anti-corrosion material, (L.2)

SR 3.8.4.5

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

SR 3.8.4.6

4. The battery charger will supply a load equal to the manufacturer's rating for at least ~~8~~ 4 hours. (A.4) (L.7)

A.1

ITS 3.8.4

SURVEILLANCE REQUIREMENTS (Continued)

24 LD.1

SR3.8.4.7 d. At least once per ~~18~~ months~~, during shutdown,~~ by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status ~~all of the actual or simulated~~ emergency loads ~~for the 240 minute design cycle~~ when the battery is subjected to a battery service test. L.3 LA.2

for the design duty cycle

L.3

SR3.8.4.8 e. At least once per 60 months~~, during shutdown,~~ by verifying that the battery capacity is at least 80% of the manufacturers rating when subjected to a performance discharge test. ~~Once per 60 month interval,~~

Note to SR3.8.4.7 — this performance discharge test may be performed in lieu of the battery service test. provided it envelops the service test

modified L.4 or modified performance discharge test L.4 L.5

SR3.8.4.8 f. Annual 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.3

with capacity <100% of manufacturer's rating

L.6

add proposed 3rd frequency

add proposed SR3.8.4.9 and Notes to SRs

A.5

Page 3 of 10

A.1

ITS 3.8.4

A.2 moved to ITS 3.8.6

TABLE 4.8.2.3.2-1

BATTERY SURVEILLANCE REQUIREMENTS

Parameter	CATEGORY A[(1)]	CATEGORY B[(2)]	
	Limits for each designated pilot cell	Limits for each connected cell	Allowable[(3)] value for each connected cell
Electrolyte Level	>Minimum level indication mark and ≤ ¼" above maximum level indication mark	>Minimum level indication mark, and ≤ ¼" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 volts	≥ 2.13 volts[(c)]	> 2.07 volts
Specific Gravity[(a)]	≥ 1.200[(b)]	≥ 1.195	Not more than .020 below the average of all connected cells
		Average of all connected cells > 1.205	Average of all connected cells ≥ 1.195[(b)]

(a) Corrected for electrolyte temperature and level.
(b) Or battery charging current is less than 2 amperes when on float charge.
(c) May be corrected for average electrolyte temperature.
(1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next 7 days.
(2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
(3) Any Category B parameter not within its allowable value indicates an inoperable battery.

add proposed LCO 3.8.4 and Applicability M.1

PLANT SYSTEMS A.1

SURVEILLANCE REQUIREMENTS

c. At least once per 18 months by:

1. Performing a system functional test which includes simulated automatic actuation and verifying that each automatic valve in the flow path actuates to its correct position, but may exclude actual injection of coolant into the reactor vessel.

2. Verifying that the system is capable of providing a flow of greater than or equal to 600 gpm to the reactor vessel when steam is supplied to the turbine at a pressure of 150 ± 15 psig using the test flow path.*

3. Performing a CHANNEL CALIBRATION of the discharge line "keep filled" pressure alarm instrumentation and verifying the low pressure setpoint allowable value to be >29 psig.

Add proposed ITS LCO 3.8.4 (Division 1 250V requirement) and proposed ACTION C

d. By demonstrating MCC-121y and the 250-volt battery and charger OPERABLE: A.6

SR 3.8.4.1

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

a) MCC-121y is energized, and has correct breaker alignment, indicated power availability from the charger and battery, and voltage on the panel with an overall voltage of greater than or equal to 250 volts. (See ITS 3.5.3)

b) The electrolyte level of each pilot cell is above the plates,

c) The pilot cell specific gravity, corrected to 77°F, is greater than or equal to 1.200, and

d) The overall battery voltage is greater than or equal to 256 ~~250~~ volts* on float charge A.7 M.3 (See ITS 3.5.3)

2. At least once per 92 days by verifying that:

a) The voltage of each connected battery is greater than or equal to 250 volts under float charge and has not decreased more than 12 volts from the value observed during the original test.

b) The specific gravity, corrected to 77°F, of each connected cell is greater than or equal to 1.195 and has not decreased more than 0.05 from the value observed during the previous test, and

c) The electrolyte level of each connected cell is above the plates.

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

SR 3.8.4.3 a) The battery shows no visual indication of physical damage or abnormal deterioration, and

SR 3.8.4.4 b) Battery terminal connections are ~~clean, tight,~~ free of corrosion and coated with anti-corrosion material. L.2

*The provisions of Specification 4.0.4 are not applicably provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the tests.

(See ITS 3.5.3)

add proposed SR 3.8.4.2, SR 3.8.4.5, SR 3.8.4.6, SR 3.8.4.7, and SR 3.8.4.8 M.2

A.1 <General Description> A.2

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

add proposed LCO 3.8.4 A.2

3.8.2.3 The following D.C. distribution system electrical divisions shall be OPERABLE and energized:

LA.1

a. Division 1, consisting of:
   1. 125-volt battery 2A.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 211Y.

b. Division 2, consisting of:
   1. 125-volt battery 2B.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 212Y.

c. Division 3, consisting of:
   1. 125-volt battery 2C.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 213.

d. Unit 1 Division 2, consisting of:
   1. 125-volt battery 1B.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 112Y.

See ITS 3.8.7

A.1 opposite unit

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

ACTION A
ACTION E

a. With either Division 1 or Division 2 inoperable or not energized, restore the inoperable division to OPERABLE and energized 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.

See ITS 3.8.7

ACTION B

b. With Division 3 inoperable or not energized, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.1. A.3

ACTION D
ACTION E

c. With Unit 1 Division 2 inoperable or not energized, restore the inoperable division to OPERABLE and energized 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.

opposite Unit A.1

See ITS 3.8.7

A.1

ITS 3.8.4

SURVEILLANCE REQUIREMENTS

⟨See ITS 3.8.7⟩

4.8.2.3.1 Each of the above required D.C. distribution system electrical divisions shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment, indicated power availability from the charger and battery, and voltage on the panel with an overall voltage of greater than or equal to 125 volts.

4.8.2.3.2 Each 125-volt battery and charger shall be demonstrated OPERABLE:

SR3.8.4.1

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

1. The parameters in Table 4.8.2.3.2-1 meet the Category A limits, and — A.2 moved to ITS 3.8.6

2. Total battery terminal voltage is greater than or equal to 128 volts on float charge.

SR3.8.4.2

b. At least once per 92 days ~~and within 7 days after a battery discharge with battery voltage below 110 volts, or battery overcharge with battery terminal voltage above 150 volts, by verifying that:~~ L.1

1. The parameters in Table 4.8.2.3.2-1 meet the Category B limits, — moved to ITS 3.8.6 A.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 at least 10 connected cells is above 60°F. — A.2 moved to ITS 3.8.6

c. At least once per ~~18~~ 24 months by verifying that: LD.1

SR3.8.4.3 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, L.2

SR3.8.4.5 3. The resistance of each cell and terminal connection is less than or equal to 150 x 10^{-6} ohm, and

SR3.8.4.6 4. The battery charger will supply a load equal to the manufacturer's rating for at least ~~8~~ 4 hours. A.4 L.7

SURVEILLANCE REQUIREMENTS (Continued)

24 LD.1

SR3.8.4.7 d. At least once per 18 months, during shutdown, by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the 240 minute design cycle when the battery is subjected to a battery service test. L.3 LA.2

for the design duty cycle

SR3.8.4.8 e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturers rating when subjected to a performance discharge test. Once per 60-month interval, L.3

Note to SR 3.8.4.7 This performance discharge test may be performed in lieu of the battery service test. provided it envelops the service test L.4

modified L.4

or modified performance discharge test L.5

SR3.8.4.8 f. Annual 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. LA3

with capacity < 100% of manufacturer's rating

add proposed 3rd frequency L.6

add proposed SR 3.8.4.9 and Notes to SRs A.5

A.1

ITS 3.8.4

A.2 moved to ITS 3.8.6

TABLE 4.8.2.3.2-1

BATTERY SURVEILLANCE REQUIREMENTS

Parameter	CATEGORY A(1)	CATEGORY B(2)	
	Limits for each designated pilot cell	Limits for each connected cell	Allowable (3) value for each connected cell
Electrolyte Level	>Minimum level indication mark and $\leq$ ¼" above maximum level indication mark	>Minimum level indication mark, and $\leq$ ¼" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	$\geq$ 2.13 volts	$\geq$ 2.13 volts(c)	> 2.07 volts
Specific Gravity(a)	$\geq$ 1.200(b)	$\geq$ 1.195	Not more than .020 below the average of all connected cells
		Average of all connected cells > 1.205	Average of all connected cells $\geq$ 1.195(b)

(a) Corrected for electrolyte temperature and level.
(b) Or battery charging current is less than 2 amperes when on float charge.
(c) May be corrected for average electrolyte temperature.
(1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next 7 days.
(2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
(3) Any Category B parameter not within its allowable value indicates an inoperable battery.

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PLANT SYSTEMS — add proposed LCO 3.8.4 and Applicability — M.1

A.1

SURVEILLANCE REQUIREMENTS

c. At least once per 18 months by:

1. Performing a system functional test which includes simulated automatic actuation and verifying that each automatic valve in the flow path actuates to its correct position, but may exclude actual injection of coolant into the reactor vessel.
2. Verifying that the system is capable of providing a flow of greater than or equal to 600 gpm to the reactor vessel when steam is supplied to the turbine at a pressure of 150 ± 15 psig using the test flow path.
3. Performing a CHANNEL CALIBRATION of the discharge line "keep filled" pressure alarm instrumentation and verifying the low pressure setpoint allowable value to be ≥29.0 psig.

Add proposed ITS LCO 3.8.4 (Division 1 250V requirements) and proposed ACTION C

d. By demonstrating MCC-221y and the 250-volt battery and charger OPERABLE: A6

SR 3.8.4.1

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

a) MCC-221y is energized, and has correct breaker alignment, indicated power availability from the charger and battery, and voltage on the panel with an overall voltage of greater than or equal to 250 volts. (See ITS 3.5.3)
b) The electrolyte level of each pilot cell is above the plates,
c) The pilot cell specific gravity, corrected to 77°F, is greater than or equal to 1.200, and (See ITS 3.5.3)
d) The overall battery voltage is greater than or equal to 250 256 volts* on float charge A.7

2. At least once per 92 days by verifying that:

a) The voltage of each connected battery is greater than or equal to 250 volts under float charge and has not decreased more than 12 volts from the value observed during the original test,
b) The specific gravity, corrected to 77°F, of each connected cell is greater than or equal to 1.195 and has not decreased more than 0.05 from the value observed during the previous test, and
c) The electrolyte level of each connected cell is above the plates.

M.3

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

SR 3.8.4.3 a) The battery shows no visual indication of physical damage or abnormal deterioration, and

SR 3.8.4.4 b) Battery terminal connections are clean, tight, free of corrosion and coated with anticorrosion material. L.2

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*The provisions of Specification 4.0.4 are not applicably provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the tests.

<See ITS 3.5.3>

add proposed SR 3.8.4.2, SR 3.8.4.5, SR 3.8.4.6, SR 3.8.4.7, and SR 3.8.4.8 — M.2

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that 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 BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 The battery hardware components (battery and charger) of CTS 3.8.2.3 remain in the DC Sources LCO (ITS 3.8.4). Therefore, a new LCO statement has been provided reflecting this. The ITS presents the DC distribution in a separate LCO (ITS 3.8.7) and ITS 3.8.6 presents the battery cell parameter limits in a separate LCO. This is in accordance with the format of the BWR ISTS, NUREG-1434, Rev. 1. Any technical changes to the battery cell parameter requirements of CTS Table 4.8.2.3.2-1 (including CTS 4.8.2.3.2.a.1 and 4.8.2.3.2.b.1) and the average electrolyte temperature requirements of CTS 4.8.2.3.2.b.3 are addressed in the Discussion of Changes for ITS: 3.8.6.

A.3 CTS 3.8.2.3 Action b requires the HPCS System to be declared inoperable and to take the ACTION required by Specification 3.5.1 when the Division 3 DC electrical power source is inoperable. The format of the ITS does not include providing "cross references." ITS 3.5.1 adequately prescribes the Required Actions for an inoperable ECCS without such references. Therefore, the existing reference to "take the ACTION required by Specification 3.5.1" in CTS 3.8.2.3 Action b serves no functional purpose, and its removal is purely an administrative difference in presentation.

A.4 CTS 4.8.2.3.2.c.4 requires performance of a battery charger capacity test to verify that the 125 V 1E battery chargers will supply a load equal to the manufacturer's rating for the test duration. Since the battery charger rating does not change, the appropriate values (amps and voltage) have been included in ITS SR 3.8.4.6. Replacing the current statement with the specific manufacturer's rating is a presentation preference consistent with the format of BWR ISTS, NUREG-1434, Rev. 1, and is considered an administrative change.

A.5 SR 3.8.4.9 and the Notes to the Surveillance Requirements section of ITS 3.8.4, were added to clearly define the application of Surveillance Requirements for electrical power subsystem equipment that is required under ITS 3.8.4 and shared by both units. The added SR and Notes ensure that required DC power electrical power subsystems on the opposite unit are properly tested. The added SR and Notes are consistent with the CTS.

ADMINISTRATIVE (continued)

A.6 The Division 1 250V DC battery and battery charger have been moved from the RCIC Specification (CTS 3/4.7.3) to the DC Sources Specification (proposed ITS 3.8.4). This requirement is covered by the ITS 3.8.4 LCO statement, which requires the Division 1 DC electrical power subsystem to be OPERABLE. In CTS 3/4.7.3, if the Division 1 250V DC battery or charger is inoperable, RCIC and one of the RCIC PCIVs would be considered inoperable and the appropriate ACTIONS would be entered. Therefore, new ITS 3.8.4 ACTION C is also being added to declare RCIC and the RCIC PCIVs (i.e., the associated supported features) inoperable immediately when the Division 1 250V DC battery is inoperable. Since this new LCO and ACTION are identical to the current requirements, this change is considered administrative.

A.7 CTS 4.7.3.d.1.d) requires the overall battery voltage to be verified ≥ 250V every 7 days. ITS SR 3.8.4.1 adds a requirement that the battery be verified while on float charge. This is the current manner in which the 250V battery is verified, and CTS 4.7.3.d.2.a), which verifies the voltage is within the limits every 92 days, already requires the battery to be verified while on float charge. Therefore, this addition is considered an administrative change.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 CTS 4.7.3.d provides the Surveillance Requirements for the Division 1 250V DC electrical power subsystem that supplies power to the RCIC System. The ITS present the Division 1 250V DC electrical power subsystem in the same Specification as the 125V DC electrical power subsystems. Therefore, a new LCO statement has been provided reflecting this. This portion of the change is administrative. However, the Applicability of CTS 3.7.3 is MODES 1, 2, and 3 with reactor steam dome pressure greater than 150 psig. The ITS 3.8.4 Applicability covers all of MODES 1, 2, and 3, not just when the reactor steam dome pressure is greater than 150 psig. This change is necessary since the Division 1 250V DC electrical power subsystem also provides power to a RCIC primary containment isolation valve (PCIV). The RCIC PCIV is required by CTS 3.6.3 to be OPERABLE in MODES 1, 2, and 3. Therefore, to ensure the RCIC PCIV has the necessary electrical power to operate and perform its safety function (to close on the appropriate signals), this more restrictive change to the Applicability is required.

TECHNICAL CHANGES - MORE RESTRICTIVE (continued)

M.2 ITS 3.8.4 adds SR 3.8.4.2, SR 3.8.4.5, SR 3.8.4.6, SR 3.4.8.7, and SR 3.8.4.8 for the Division 1 250V DC electrical power subsystem. These Surveillance Requirements involve verification that no visible corrosion at battery terminals and connections is present, resistance values for bolted battery connections, demonstration of charger capability, and battery service and modified performance/performance discharge tests. This ensures the 250V battery can perform its required function. The testing that is directed under these SRs is not reflected in the CTS as Surveillance Requirements, and as such, is more restrictive on plant operations.

M.3 CTS 4.7.3.d.1.d requires a weekly verification that the overall battery voltage is ≥ 250 volts for the 250 V battery. CTS 4.8.2.3.2.a.2 requires the weekly verification for the 125 V batteries with a limit of ≥ 128 volts. The 250 V battery limit is revised to ≥ 256 volts so that both limits are based on 2.20 volts/cell. This is an additional restriction on plant operation.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 ITS 3.8.4 has been written to require the Division 1, 2 and 3 DC electrical power subsystems and the opposite unit Division 2 DC electrical power subsystem to be OPERABLE and the details relating to system OPERABILITY (what constitutes a DC Source subsystem) in CTS 3.8.2.3 are proposed to be relocated to the Bases. The actual battery identification numbers are proposed to be relocated to the UFSAR. The Bases will include an adequate description of the batteries to properly identify them. The details for system OPERABILITY are not necessary in the LCO. The definition of OPERABILITY suffices. As such, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS. Changes to the UFSAR are controlled by the provisions of 10 CFR 50.59.

LA.2 The details of the DC loads and the licensed service duration for the battery service test (CTS 4.8.2.3.2.d) are proposed to be relocated to the UFSAR. The ITS requirements that the battery capacity be adequate to supply and maintain in OPERABLE status "the required emergency loads" and performance of the "service test" (proposed SR 3.8.4.7) are adequate to convey that the DC loads and test duration must be consistent with the plant specific DC load profile. Changes to the UFSAR are controlled by the provisions of 10 CFR 50.59.

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.2 (cont'd) These details are not necessary to ensure the OPERABILITY of the batteries. The requirements of ITS 3.8.4 and proposed SR 3.8.4.7 are adequate to ensure the batteries are maintained OPERABLE and the relocated details are not required to be in the Technical Specifications to provide adequate protection of the public health and safety.

LA.3 The format of the proposed Technical Specifications does not include specific limits on degradation, currently described in CTS 4.8.2.3.2.f, in the conditional Frequency for proposed SR 3.8.4.8. This information is proposed to be relocated to the Bases where it provides guidance regarding the intent of the term "degradation" as used in this ITS Frequency. This information is not necessary for performance of proposed SR 3.8.4.8 since proposed SR 3.8.4.8 continues to use the term "degradation" in the Frequency. As such, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LD.1 The Frequencies for performing CTS 4.8.2.3.2.c and 4.8.2.3.2.d (proposed SRs 3.8.4.3, 3.8.4.4, 3.8.4.5, 3.8.4.6, and 3.8.4.7) have been extended from 18 months to 24 months. The proposed change will allow these Surveillances to extend their Surveillance Frequency from the current 18 month Surveillance Frequency (i.e., a maximum of 22.5 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2) to a 24 month Surveillance Frequency (i.e., a maximum of 30 months accounting for the allowable grace period specified in CTS 4.0.2 and proposed SR 3.0.2). This proposed change was evaluated in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991.

SR 3.8.4.3 verifies battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration that degrades battery performance.

SR 3.8.4.4 states to remove visible corrosion and verify battery cell to cell and terminal connections are coated with anti-corrosion material.

SR 3.8.4.5 verifies battery connection resistance is less than the value specified for inter-cell connections and terminal connections.

TECHNICAL CHANGES - LESS RESTRICTIVE

LD.1 (cont') SR 3.8.4.6 verifies each required battery charger supplies: a) the specified amps and volts for greater than the required time for Division 1 and 2 125 V battery chargers; and b) the specified amps and volts for greater than the required time for Division 3 125 V battery chargers; and c) the specified amps and volts for greater than the required time for the 250 V battery charger.

SR 3.8.4.7 verifies 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.

The purpose of these tests are to ensure the availability of necessary power to ESF systems from Class 1E battery sources. Batteries are required for the mitigation of an accident during conditions in the event of a loss of all offsite power and a worst case single failure. Extending the Surveillance interval for these Surveillances is acceptable for the following reasons: 1) the design, in conjunction with Technical Specification requirements which limit the extent and duration of inoperable DC sources, provides substantial redundancy in DC sources; 2) battery parameters such as float voltage (which verifies battery charger Operability), electrolyte level, and specific gravity are monitored during the operating cycle to verify battery Operability and will provide prompt identification of any substantial battery or battery charger degradation or failure; 3) batteries are not discharged except for the performance of the operating cycle test demonstrations of Operability, so there is minimal risk of age related degradation; and 4) battery attributes subject to degradation due to aging, such as terminal corrosion and cell deterioration, are monitored every 92 days during the operating cycle. Therefore, any substantial degradation of the subject components will be evident prior to the scheduled performance of these tests.

Reviews of historical maintenance and surveillance data have shown that these tests normally pass their Surveillances at the current Frequency. An evaluation has been performed using this data, and it has been determined that the effect on safety due to the extended Surveillance Frequency will be minimal. In addition, the proposed 24 month Surveillance Frequencies, if performed at the maximum interval allowed by proposed SR 3.0.2 (30 months) do not invalidate any assumptions in the plant licensing basis.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

"Specific"

L.1 The requirement of CTS 4.8.2.3.2.b to verify, within 7 days after a battery discharge or overcharge, that there is no visible corrosion at either terminals or connectors, or that connection resistance is < 150 $X10^{-6}$ohm has been removed. This is consistent with the nature of the condition being verified, i.e., that the battery resistance has not degraded significantly, since corrosion rates and connection resistance are not immediately and significantly affected by a severe discharge or overcharge condition.

L.2 CTS 4.8.2.3.2.c.2 and 4.7.3.d.3.b) require the cell-to-cell and terminal connections to be "clean, tight." The confirmation that the connection is "tight" is typically performed by application of a torque, which results in unnecessary stress being applied to the bolted connection. When a battery cell is installed or replaced, plant maintenance procedures require the connections to be torqued within prescribed limits as specified by the manufacturer. After being torqued, the connections remain tight and rarely need to be retorqued. This change is acceptable since, the use of connection resistance readings obtained by either digital low-resistance ohmmeters, or measurement of millivolt drop during capacity testing, to determine that connections are not loose is consistent with the guidelines in IEEE-450 Section 4.4.1, Corrective Actions. Therefore, if the connection satisfies the resistance requirements of proposed SR 3.8.4.4 (performed at the same Frequency), it can be assumed to be sufficiently "tight." As a result, it is not necessary to verify the connections are "tight." The "clean" requirement has been deleted since it is redundant to the "free of corrosion" requirement. In addition, the requirement to verify that connections are "clean" and "tight" is only applicable to nickel cadmium batteries. The DC electrical power subsystem batteries are lead calcium batteries.

L.3 The requirement to perform CTS 4.8.2.3.2.d and 4.8.2.3.2.e during shutdown has not been included in proposed SRs 3.8.4.7 and 3.8.4.8. The proposed Surveillances do not include the restriction on plant conditions. The control of plant conditions appropriate to perform the Surveillance is an issue for procedures and scheduling. As indicted in Generic Letter 91-04, allowing this control is consistent with the vast majority of other Technical Specification Surveillances that do not dictate plant conditions for the Surveillance. This detail of the Surveillance is a prerequisite for performance of the test and is not necessary for ensuring the requirements to demonstrate OPERABILITY of the DG or qualified offsite sources. In addition, the requirement to perform these Surveillances during shutdown is not required by the other BWR nuclear plants on the ComEd system (i.e., Dresden and Quad Cities).

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.4 CTS 4.8.2.3.2.e allows a performance discharge test to substitute for the service test (required by CTS 4.8.2.3.2.d) once every 60 months. The Note to proposed SR 3.8.4.7 will only allow a modified performance discharge test to be substituted for the service test. In addition, the modified performance discharge test will be allowed to substitute for the service test at any time, instead of just one every 60 months. The modified performance discharge test consists of an 4 hour duty cycle with two rates: the 1 minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance discharge test. (The test can consist of a single rate if the test rate employed for the performance discharge test exceeds the 1 minute rate.) The service test consists of a 4 hour duty cycle with two or three rates, depending upon the battery being tested: the 1 minute rate for the largest current load of the duty cycle, the rate based on the steady state loads of the duty cycle (1 minute through 239 minutes), and a final 1 minute rate (if applicable) based on the cycling loads of the duty cycle. For LaSalle 1 and 2, the second test rate to be employed for the modified performance discharge test is greater than both the steady state and the cycling loads (1 minute through 240 minutes) of the service test. Thus, the modified performance discharge test is a more severe test of the battery capacity. To ensure the modified performance discharge test will only be substituted as long as it remains a more severe test of the battery, the Note also states that the substitution is only allowed as long as the modified performance discharge test completely envelops the service test.

This proposed change will permit LaSalle 1 and 2 to perform the modified performance discharge test every refueling outage in lieu of the service test. Performing the modified performance discharge test every refueling outage instead of the current 60 month requirement will allow LaSalle 1 and 2 to better trend the battery capacity with more data points (over a 20 year battery service life, 10 trend points if the test is performed every 24 months (the proposed refueling outage interval) versus only four trend points if performed every 60 months). At the same time, the service use of the battery is continuing to be verified every cycle. This will also allow LaSalle 1 and 2 to more accurately identify when a battery is approaching degradation and allow for corrective action in a more timely manner. This will enhance the battery performance. The additional deep cycles that will result from performing the modified performance discharge test more frequently will not significantly affect the batteries. Each battery is designed for 30 deep cycles; performing a modified performance discharge test every 24 months will only increase the number of the deep cycles resulting from testing from 4 to 10. Thus, there are still 20 deep cycles remaining for any plant required DC challenges. However, if an excess number of challenges are used, the battery can always be replaced at an earlier date (i.e., before the nominal 20 year service life expires).

TECHNICAL CHANGES - LESS RESTRICTIVE

L.4 (cont'd) In addition, the basis for the current requirement to perform the service test is IEEE-450, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations." This proposed change is supported by the latest version of IEEE-450 (1995). Section 5.4 of this standard states "The modified performance discharge test can be used in lieu of a service test at any time."

L.5 An allowance to perform a modified performance discharge test in lieu of a performance discharge test has been added to CTS 4.8.2.3.2.e and f (proposed SR 3.8.4.8). The modified performance discharge test is a simulated duty cycle normally consisting of just two rates: the 1 minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance discharge test. To ensure the modified performance discharge test completely envelopes the service test duty cycle, additional loads and durations of the duty cycle may be added to the modified performance discharge test prior to going to the constant current rate. Since the ampere-hours removed by a rated 1 minute discharge represent a very small portion of the battery capacity, the test rate can be changed to that for the performance discharge test without compromising the results of the performance discharge test.

L.6 CTS 4.8.2.3.2.f requires an annual battery performance discharge test when the battery has reached 85% of its service life. A battery can be at 85% or greater of expected life, and still be within the required capacity to meet OPERABILITY requirements. In this event, a Frequency less restrictive than the annual Frequency is justified. Proposed SR 3.8.4.8 will now be required to be performed every 24 months when a battery has reached 85% of expected life with battery capacity ≥ 100% of manufacturer's rating. This new Frequency is also consistent with the BWR/6 ISTS, NUREG-1434, Rev. 1.

L.7 CTS 4.8.2.3.2.c.4 requires performance of a battery charger capacity test to verify the charger will supply a load equal to the manufacturer's rating for a period of 8 hours. ITS SR 3.8.4.6 reduces the test duration to 4 hours. A four hour test duration is sufficient for the battery charger to reach its thermal equilibrium (heat up time is usually less than one hour) and demonstrate its required capability. This test duration is also consistent with the test duration previously approved for Dresden and Quad Cities Nuclear Power Stations.

RELOCATED SPECIFICATIONS

None

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - SHUTDOWN A.1 ITS 3.8.5

LIMITING CONDITION FOR OPERATION <General Description> A.2

~~3.8.2.4 As a minimum, Division 1 or Division 2, and Division 3 when the HPCS system is required to be OPERABLE, and Unit 2 Division 2 when the standby gas treatment system and/or the control room and auxiliary electric equipment room emergency filtration system are required to be OPERABLE, of the D.C. distribution system shall be OPERABLE and energized with:~~

DC electrical power subsystem(s) shall be OPERABLE to support the electrical power Subsystems required by LCO 3.8.8, "Distribution Systems-Shutdown." A.2 M.1

a. ~~Division 1, consisting of;~~
   1. ~~125 volt battery 1A.~~
   2. ~~125 volt full capacity charger.~~
   3. 125 volt distribution panel 111Y.

b. ~~Division 2, consisting of;~~
   1. ~~125 volt battery 1B.~~
   2. ~~125 volt full capacity charger.~~
   3. 125 volt distribution panel 112Y.

c. ~~Division 3, consisting of;~~
   1. ~~125 volt battery 1C.~~
   2. ~~125 volt full capacity charger.~~
   3. 125 volt distribution panel 113.

d. ~~Unit 2 Division 2, consisting of;~~
   1. ~~125 volt battery 2B.~~
   2. ~~125 volt full capacity charger.~~
   3. 125 volt distribution panel 212Y.

LA.1

<See ITS 3.8.8>

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

ACTION:

one or more required M.1

add proposed Required Action B.1

ACTION B a. With both Division 1 distribution panel 111Y and Division 2 distribution panel 112Y of the above required D.C. distribution system inoperable or not energized, suspend CORE ALTERATIONS, handling of irradiated fuel cask in the secondary containment and operations with a potential for draining the reactor vessel.

<See ITS 3.8.8>

ACTION B b. With Division 3 distribution panel 113 of the above required D.C. distribution system inoperable or not energized, declare the HPCS system inoperable and take the ACTION required by Specifications 3.5.2 and 3.5.3. A.3

add proposed Required Actions B.2.1 and B.2.2 M.3

add proposed Required Action B.2.4 M.2

*When handling irradiated fuel in the secondary containment.

Applicability

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued) Verify within 1 hour L2 Add proposed Condition A Note

ACTION A c. With one division battery and/or battery charger inoperable, operation may continue provided the Unit tie breakers for the affected division are OPERABLE and aligned to supply power to the affected distribution panel from the associated OPERABLE Unit 2 125 volt DC distribution panel; restore the inoperable battery and/or charger to OPERABLE status within 72 hours or declare the division distribution panel inoperable. M4 A.4 Add proposed Required Actions B.2.1, B.2.2, and B.2.3

ACTION B

See ITS 3.8.8

ACTION B d. With Unit 2 Division 2 of the above required D.C. distribution system inoperable or not energized, declare the standby gas treatment system subsystem B and the control room and auxiliary electric equipment room emergency filtration system train B inoperable and take the ACTION required by Specifications 3.6.5.3 and 3.7.2. A.3

Note to Actions e. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.2.4.1 At least the above required D.C. distribution system electrical division(s) shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and voltage on the panel(s) with an overall voltage of greater than or equal to 125 volts. See ITS 3.8.8

SR 3.8.5.1 4.8.2.4.2 add proposed Note At least the above required battery and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2. L.1

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - SHUTDOWN

A.1

LIMITING CONDITION FOR OPERATION <General Description> A.2

3.8.2.4 As a minimum, Division 1 or Division 2, and Division 3 when the HPCS system is required to be OPERABLE, and Unit 1 Division 2 when the standby gas treatment system and/or the control room and auxiliary electric equipment room emergency filtration system are required to be OPERABLE, of the D.C. distribution system shall be OPERABLE and energized with:

DC electrical power subsystem(s) shall be OPERABLE to support the electrical power subsystems required by LCO 3.8.8, "Distribution Systems - Shutdown" A.2 M.1

a. Division 1, consisting of:
   1. 125-volt battery 2A.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 211Y.

b. Division 2, consisting of:
   1. 125-volt battery 2B.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 212Y.

LA.1

c. Division 3, consisting of:
   1. 125-volt battery 2C.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 213.

<See ITS 3.8.8>

d. Unit 1 Division 2, consisting of:
   1. 125-volt battery 1B.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 112Y.

LA.1

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

ACTION: One or more required M.1

add proposed Required Action B.1

ACTION B a. With both Division 1 distribution panel 211Y and Division 2 distribution panel 212Y of the above required D.C. distribution system inoperable or not energized, suspend CORE ALTERATIONS, handling of irradiated fuel cask in the secondary containment and operations with a potential for draining the reactor vessel.

<See ITS 3.8.8>

ACTION B b. With Division 3 distribution panel 213 of the above required D.C. distribution system inoperable or not energized, declare the HPCS system inoperable and take the ACTION required by Specifications 3.5.2 and 3.5.3. A.3

add proposed Required Actions B.2.1 and B.2.2 M.3

add proposed Required Action B.2.4 M.2

*When handling irradiated fuel in the secondary containment.

APPLICABILITY

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued) Verify within 1 hour L2 Add proposed Condition A Note M.4

Action A c. With one division battery and/or battery charger inoperable, operation may continue provided the Unit tie breakers for the affected division are OPERABLE and aligned to supply power to the affected distribution panel from the associated OPERABLE Unit 1 125-volt D.C. distribution panel; restore the inoperable battery and/or

Action B charger to OPERABLE status within 72 hours or declare the division distribution panel inoperable. See ITS 3.8.8

A.4 Add proposed Required Actions B.2.1, B.2.2, and B.2.3

Action B d. With Unit 1 Division 2 of the above required D.C. distribution system inoperable or not energized, declare the standby gas treatment system subsystem A and the control room and auxiliary electric equipment room emergency filtration system train A inoperable and take the ACTION required by Specifications 3.6.5.3 and 3.7.2. A3

Note to Action B e. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.2.4.1 At least the above required D.C. distribution system electrical division(s) shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and voltage on the panel(s) with an overall voltage of greater than or equal to 125 volts. See ITS 3.8.8

add proposed Note L.1

SR 3.8.5.1 4.8.2.4.2 At least ~~the above~~ required battery and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that 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 BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 The battery hardware components (battery and charger) of CTS 3.8.2.4 remain in the DC Sources LCO (ITS 3.8.5). Therefore, a new LCO statement has been provided reflecting this. The ITS presents the DC distribution in a separate LCO (ITS 3.8.8) and presents the battery cell parameters are presented in a separate LCO (ITS 3.8.6).

A.3 CTS 3.8.2.4 Action b requires the HPCS System to be declared inoperable and to take the ACTION required by Specifications 3.5.2 and 3.5.3 when the Division 3 DC electrical power source is inoperable. CTS 3.8.2.4 Action d requires the standby gas treatment subsystem and the control room and auxiliary electric equipment room emergency filtration subsystem to be declared inoperable and take the Action required by Specifications 3.6.5.3 and 3.7.2 in the event the opposite unit's Division 2 DC electrical power subsystem is inoperable. The format of the ITS does not include providing "cross references." ITS 3.5.2, 3.6.4.3, 3.7.4, and 3.7.5 adequately prescribe the Required Actions for an inoperable HPCS System, SGT subsystem, control room area filtration subsystem, or control room area A/C subsystem, respectively, without such references. Therefore the existing references in CTS 3.8.2.4 Action b to "take the ACTION required by Specifications 3.5.2 and 3.5.3" and in CTS 3.8.2.4 Action d to "take the ACTION required by Specification 3.6.5.3 and 3.7.2" serve no functional purpose, and their removal is purely an administrative difference in presentation.

A.4 In lieu of declaring the standby gas treatment subsystem and control room and auxiliary electric equipment room emergency filtration subsystem inoperable and taking the Actions of the appropriate LCO as required by CTS 3.8.2.4 Action d, three new Required Actions have been provided for when the opposite unit's Division 2 DC source is inoperable. ITS 3.8.5 Required Actions B.2.1, B.2.2, and B.2.3 require suspension of CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment, and OPDRVs. These Required Actions are the same as the Actions found in the individual System Specifications (CTS 3.6.5.3 and 3.7.2), therefore, the addition of these changes are considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The existing requirement of CTS 3.8.2.4 for "Division 1 or Division 2" DC electrical power sources to be OPERABLE during shutdown conditions is not specific as to what the single sources must be powering. The requirement in ITS LCO 3.8.5 specifies that the sources necessary to supply DC power to all equipment required to be OPERABLE in the current plant condition must be OPERABLE. This added restriction conservatively assures the needed sources of power are OPERABLE, even if this results in both the Division 1 and Division 2 sources being required. CTS 3.8.2.4 Action a has been subsequently modified to be "one or more required" instead of the current "both," to account for this potential addition.

Since the ITS DC source OPERABILITY requirements require supplying power to the necessary electrical power distribution subsystems, if one or more required electrical power distribution subsystems are not being supplied the required DC power, the DC source is inoperable. In this event it may not be necessary to suspend all CORE ALTERATIONS, irradiated fuel handling, and OPDRVs as required by CTS 3.8.2.4 Action a. Conservative actions can be assured if all required equipment without the necessary DC power is declared inoperable and the associated ACTIONS of the individual equipment taken (ITS 3.8.5 Required Action B.1). Therefore, along with the conservative additional requirements placed on the Division 1 and Division 2 DC subsystems, Required Action B.1, which requires the associated supported equipment to be declared inoperable, is also added. Currently, this action only applies to the Division 3 equipment (HPCS System) and the opposite unit Division 2 equipment. These additions represent restrictions consistent with implicit assumptions for operation in shutdown conditions (required equipment receiving the necessary required power); restrictions which are not currently imposed via the Technical Specifications.

M.2 In the event the necessary Division 1 or 2 DC sources are not OPERABLE, plant conditions are conservatively restricted in CTS 3.8.2.4 Action a (ITS 3.8.5 Required Actions B.2.1, B.2.2, and B.2.3) by suspending CORE ALTERATIONS, irradiated fuel handling, and OPDRVs. In the event the necessary Division 3 DC source is not OPERABLE, plant conditions are conservatively restricted by suspending OPDRVs as required by CTS 3.8.2.4 Action b and CTS 3.5.2 Action a. However, continued operation without the necessary DC sources should not be considered acceptable. Therefore, ITS 3.8.5 Required Action B.2.4 is added to commence and continue attempts to restore the necessary DC sources. (Note that if actions are taken in accordance with ITS 3.8.5 Required Action B.1, sufficiently conservative measures are assured by the ACTIONS for the individual components declared inoperable

TECHNICAL CHANGES - MORE RESTRICTIVE

M.2 (cont'd) without requiring the efforts to restore the inoperable source.) ITS 3.8.5 Required Action B.2.4 results in an action which does not allow continued operation in the existing plant condition. This has the effect of not allowing MODE changes per LCO 3.0.4. Therefore, this existing implicit requirement is explicitly addressed in the ITS 3.8.5 ACTIONS.

M.3 In lieu of declaring the HPCS System inoperable and taking the ACTIONS of the appropriate LCO as required by CTS 3.8.2.4 Action b, new Required Actions have been provided for when the Division 3 DC source is inoperable, consistent with the current actions for inoperable Division 1 and 2 DC Sources (CTS 3.8.2.4 Action a). ITS 3.8.5 Required Actions B.2.1, B.2.2, and B.2.3 require suspension of CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment, and OPDRVS. These Required Actions are more restrictive than currently required, since CTS 3.5.2 Action a only requires OPDRVs to be suspended (and it allows 4 hours to start this action), and ensure proper actions are taken to compensate for an inoperable HPCS System.

M.4 A Note has been added to CTS 3.8.2.4 Action c (ITS 3.8.5 Condition A) to not allow the actions to be taken when the opposite unit is in MODE 1,2, or 3. With one DC electrical power source division (battery and/or battery charger inoperable) inoperable, CTS 3.8.2.4 Action c allows operation to continue for 72 hours as long as the associated 125V DC electrical power distribution subsystem is energized by the OPERABLE opposite unit DC electrical power subsystem. This allowance can not be used with the opposite unit in MODES 1, 2, and 3 since the associated subsystems are required the support the Operability of opposite unit safety equipment. The Division 2 DC electrical power source subsystem for each unit supports redundant safety equipment for both units and the batteries have insufficient capacity to support the required loads of both units if either unit is in MODES 1, 2, or 3. Therefore, this allowance is only permitted to be used when both units are in shutdown conditions (MODE 4, 5, or defueled) when divisional separation is not required.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The requirements for OPERABLE DC electrical power distribution subsystems are contained in ITS 3.8.8, "Distribution Systems—Shutdown." Thus, ITS LCO 3.8.5 has been written to require the DC electrical power distribution subsystem(s) to be OPERABLE to support the electrical distribution subsystem(s) required by LCO 3.8.8 (see Discussion of Change M.1 above), and the details relating to system OPERABILITY in CTS 3.8.2.4 (what constitutes a required DC electrical power source) are proposed to be relocated to the Bases. The actual battery identification numbers are proposed to be relocated to the UFSAR. The Bases will include an adequate description of the batteries to properly identify them. The details for system OPERABILITY are not necessary in the LCO. The definition of OPERABILITY suffices. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS. Changes to the UFSAR are controlled by the provisions of 10 CFR 50.59.

"Specific"

L.1 Three of the DC sources Surveillances required to be performed by CTS 4.8.2.4 (CTS 4.8.2.3.2.d, 4.8.2.3.2.e, and 4.8.2.3.2.f) involve tests that would cause the only required OPERABLE unit 125V battery to be rendered inoperable. This condition presents a significant risk if an event were to occur during the test. The NRC has previously provided Surveillance exceptions in the LaSalle 1 and 2 CTS to avoid a similar condition for the AC sources, but the exceptions have not been applied to DC sources. In an effort to consistently address this concern, proposed SR 3.8.5.1 has a Note that excludes performance requirements of Surveillances that would require the required OPERABLE unit 125V battery(s) to be rendered inoperable. This allowance does not take exception to the requirement for the battery to be capable of performing the particular function - just to the requirement to demonstrate that capability while that source of power is being relied on to support meeting the LCO.

L.2 With one DC electrical power division (battery and/or battery charger inoperable) inoperable, CTS 3.8.2.4 Action c allows operation to continue for 72 hours as long as the associated 125V DC electrical power distribution subsystem is energized by the OPERABLE opposite unit DC electrical power subsystem. Since the CTS allowance does not specify an explicit time period for alignment, the time is considered as immediate. Therefore the DC electrical power distribution division would have to be declared inoperable immediately upon

TECHNICAL CHANGES - LESS RESTRICTIVE

L.2 (cont'd) discovery. This time has been extended from immediately to 1 hour (ITS 3.8.4 Required Action A.1 Completion Time). The hour time period provides sufficient time to safely perform the alignment and restore power to the required equipment, while minimizing the risk associated with an event occurring during this time period which would require the affected equipment to be Operable. The change is acceptable since the time allowed is short and allows operations to concentrate on restoring power to the required equipment instead of suspending activities which would be resumed once power is restored.

RELOCATED SPECIFICATIONS

None

A.1

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

<General Arrangement> A.2

add proposed LCO 3.8.6

3.8.2.3 The following D.C. distribution system electrical divisions shall be OPERABLE and energized:

a. Division 1, consisting of;
   1. 125-volt battery 1A.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 111Y.

b. Division 2, consisting of;
   1. 125-volt battery 1B.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 112Y.

c. Division 3, consisting of;
   1. 125-volt battery 1C.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 113.

d. Unit 2 Division 2, consisting of;
   1. 125-volt battery 2B.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 212Y.

<See ITS 3.8.4 and ITS 3.8.7>

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3. A.3

ACTION:

a. With either Division 1 or Division 2 inoperable or not energized, restore the inoperable division to OPERABLE and energized 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.

b. With Division 3 inoperable or not energized, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.1.

c. With Unit 2 Division 2 inoperable or not energized, restore the inoperable division to OPERABLE and energized 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.

<See ITS 3.8.4 and ITS 3.8.7>

A.1

ELECTRICAL POWER SYSTEMS

<See ITS 3.8.4>

SURVEILLANCE REQUIREMENTS

<See ITS 3.8.7>

4.8.2.3.1 Each of the above required D.C. distribution system electrical divisions shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment, indicated power availability from the charger and battery, and voltage on the panel with an overall voltage of greater than or equal to 125 volts.

4.8.2.3.2 Each 125-volt battery and charger shall be demonstrated OPERABLE:

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

SR 3.8.6.1 1. The parameters in Table 4.8.2.3.2-1 meet the Category A limits, and

2. Total battery terminal voltage is greater than or equal to 128 volts on float charge.

b. At least once per 92 days and within 7 days after a battery discharge with battery voltage below 110 volts, or battery overcharge with battery terminal voltage above 150 volts, by verifying that: L.1

SR 3.8.6.2 1. The parameters in Table 4.8.2.3.2-1 meet the Category B limits,

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 ~~at least 10~~ representative connected cells is above ≥ 60°F. LA.1

c. At least once per 18 months by verifying that: L.7

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 anti-corrosion material,

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

4. The battery charger will supply a load equal to the manufacturer's rating for at least 8 hours.

<See ITS 3.8.4>

A.1

Table 3.8.6-1

TABLE 4.8.2.3.2-1

BATTERY SURVEILLANCE REQUIREMENTS

	Category A	Category B	Category C
	CATEGORY A[1]	CATEGORY B[2]	
Parameter	Limits for each designated pilot cell	Limits for each connected cell	Allowable[3] value for each connected cell
Electrolyte Level	>Minimum level indication mark and < ¼" above maximum level indication mark	>Minimum level indication mark, and < ¼" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	> 2.13 volts	> 2.13 volts(c) M.1	> 2.07 volts
Specific Gravity(a)	add proposed footnote (c) L.2 > 1.200(b) L.3	> 1.195	Not more than .020 below the average of all connected cells
		Average of all connected cells > 1.205	Average of all connected cells > 1.195(b)

M.2 add proposed footnote (c) time allowance

Note(b) (a) Corrected for electrolyte temperature and level.

Note(c) (b) Or battery charging current is less than 2 amperes when on float charge.

~~(c) May be corrected for average electrolyte temperature.~~ M.1

Action A (1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next ~~7~~ 31 days. L.4 add proposed Required Action A.1

Action A (2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within ~~7~~ 31 days. M.3 L.4

Action B (3) Any Category B parameter not within its allowable value indicates an inoperable battery. A.5

add proposed Action B for electrolyte temperature and Category A or B limits not restored

add proposed Actions Note A.4

A.1

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - SHUTDOWN

<General Arrangement> A.2

add proposed LCO 3.8.6

LIMITING CONDITION FOR OPERATION

3.8.2.4 As a minimum, Division 1 or Division 2, and Division 3 when the HPCS system is required to be OPERABLE, and Unit 2 Division 2 when the standby gas treatment system and/or the control room and auxiliary electric equipment room emergency filtration system are required to be OPERABLE, of the D.C. distribution system shall be OPERABLE and energized with:

a. Division 1, consisting of;

1. 125 volt battery 1A.
2. 125 volt full capacity charger.
3. 125 volt distribution panel 111Y.

b. Division 2, consisting of;

1. 125 volt battery 1B.
2. 125 volt full capacity charger.
3. 125 volt distribution panel 112Y.

c. Division 3, consisting of;

1. 125 volt battery 1C.
2. 125 volt full capacity charger.
3. 125 volt distribution panel 113.

d. Unit 2 Division 2, consisting of;

1. 125 volt battery 2B.
2. 125 volt full capacity charger.
3. 125 volt distribution panel 212Y.

<See ITS 3.8.5 and ITS 3.8.8>

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *. A.3

ACTION:

a. With both Division 1 distribution panel 111Y and Division 2 distribution panel 112Y of the above required D.C. distribution system inoperable or not energized, suspend CORE ALTERATIONS, handling of irradiated fuel cask in the secondary containment and operations with a potential for draining the reactor vessel.

b. With Division 3 distribution panel 113 of the above required D.C. distribution system inoperable or not energized, declare the HPCS system inoperable and take the ACTION required by Specifications 3.5.2 and 3.5.3.

*When handling irradiated fuel in the secondary containment. A.3

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

c. With one division battery and/or battery charger inoperable, operation may continue provided the Unit tie breakers for the effected division are OPERABLE and aligned to supply power to the affected distribution panel from the associated OPERABLE Unit 2 125 volt DC distribution panel; restore the inoperable battery and/or charger to OPERABLE status within 72 hours or declare the division distribution panel inoperable.

d. With Unit 2 Division 2 of the above required D.C. distribution system inoperable or not energized, declare the standby gas treatment system subsystem B and the control room and auxiliary electric equipment room emergency filtration system train B inoperable and take the ACTION required by Specifications 3.6.5.3 and 3.7.2.

e. The provisions of Specification 3.0.3 are not applicable.

<See ITS 3.8.5 and ITS 3.8.8>

SURVEILLANCE REQUIREMENTS

4.8.2.4.1 At least the above required D.C. distribution system electrical division(s) shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and voltage on the panel(s) with an overall voltage of greater than or equal to 125 volts.

~~4.8.2.4.2 At least the above required battery and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.~~

A.2

<See ITS 3.8.8>

PLANT SYSTEMS ← add proposed LCO 3.8.6 and Applicability A.6

SURVEILLANCE REQUIREMENTS ← add proposed ACTIONS A and B and ACTIONS Note L.5

c. At least once per 18 months by:

1. Performing a system functional test which includes simulated automatic actuation and verifying that each automatic valve in the flow path actuates to its correct position, but may exclude actual injection of coolant into the reactor vessel.

2. Verifying that the system is capable of providing a flow of greater than or equal to 600 gpm to the reactor vessel when steam is supplied to the turbine at a pressure of 150 ± 15 psig using the test flow path. <See ITS 3.5.3>

3. Performing a CHANNEL CALIBRATION of the discharge line "keep filled" pressure alarm instrumentation and verifying the low pressure setpoint allowable value to be ≥29 psig.

M.5 add proposed Table 3.8.6-1 Cat A, Cat B, and Cat C, second part, limits and footnote (a)

d. By demonstrating MCC-121y and the 250-volt battery and charger OPERABLE:

SR 3.8.6.1 1. At least once per 7 days by verifying that: Category A limits are met M.4

a) MCC-121y is energized, and has correct breaker alignment, indicated power availability from the charger and battery, and voltage on the panel with an overall voltage of greater than or equal to 250 volts. <See ITS 3.8.7>

Table 3.8.6-1 Cat C limit b) The electrolyte level of each pilot cell is above the plates,

Table 3.8.6-1 Cat A limit c) The pilot cell specific gravity, corrected to 77°F, is greater than or equal to 1.200, and M.6 L.3

Add proposed Table 3.8.6-1 footnote (c)

d) The overall battery voltage is greater than or equal to 250 volts. <See ITS 3.8.4>

SR 3.8.6.2 2. At least once per 92 days by verifying that: Category B limits are met M.4

a) The voltage of each connected ~~battery~~ cell is greater than or equal to ~~250~~ 2.13 volts under float charge and has not decreased more than 12 volts from the value observed during the original test. L.6 L.6

Table 3.8.6-1 Cat B limit b) The specific gravity, corrected to 77°F, of each connected cell is greater than or equal to 1.195 and has not decreased more than 0.05 from the value observed during the previous test, and M.6 add proposed average limit M.5 L.6

Table 3.8.6-1 Cat C limit c) The electrolyte level of each connected cell is above the plates. add proposed Table 3.8.6-1 Cat A, Cat B, and Cat C, second part limits and footnote (a) M.5 L.3

add proposed Table 3.8.6-1 footnote (c)

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

a) The battery shows no visual indication of physical damage or abnormal deterioration, and

b) Battery terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

← add proposed SR 3.8.6.3 M.4

The provisions of Specification 4.0.4 are not applicably provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the tests.

<See ITS 3.8.4>

add proposed Table 3.8.6-1 Cat A and Cat C float voltage limits L.6

add proposed Table 3.8.6-1 Cat C specific gravity limits, including footnotes (b) and (c) M.5

A.1

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

<General Arrangement> A.2

add proposed LCO 3.8.6

LIMITING CONDITION FOR OPERATION

3.8.2.3 The following D.C. distribution system electrical divisions shall be OPERABLE and energized:

a. Division 1, consisting of;
   1. 125-volt battery 2A.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 211Y.

b. Division 2, consisting of;
   1. 125-volt battery 2B.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 212Y.

c. Division 3, consisting of;
   1. 125-volt battery 2C.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 213.

d. Unit 1 Division 2, consisting of;
   1. 125-volt battery 1B.
   2. 125-volt full capacity charger.
   3. 125-volt distribution panel 112Y.

<See ITS 3.8.4 and ITS 3.8.7>

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3. A.3

ACTION:

a. With either Division 1 or Division 2 inoperable or not energized, restore the inoperable division to OPERABLE and energized 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.

b. With Division 3 inoperable or not energized, declare the HPCS system inoperable and take the ACTION required by Specification 3.5.1.

c. With Unit 1 Division 2 inoperable or not energized, restore the inoperable division to OPERABLE and energized 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.

<See ITS 3.8.4 and ITS 3.8.7>

A.1

<See ITS 3.8.4>

SURVEILLANCE REQUIREMENTS

<See ITS 3.8.7>

4.8.2.3.1 Each of the above required D.C. distribution system electrical divisions shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment, indicated power availability from the charger and battery, and voltage on the panel with an overall voltage of greater than or equal to 125 volts.

4.8.2.3.2 Each 125-volt battery and charger shall be demonstrated OPERABLE:

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

SR 3.8.6.1 1. The parameters in Table 4.8.2.3.2-1 meet the Category A limits, and

2. Total battery terminal voltage is greater than or equal to 128 volts on float charge.

b. At least once per 92 days and within 7 days after a battery discharge with battery voltage below 110 volts, or battery overcharge with battery terminal voltage above 150 volts, by verifying that: L.1

SR 3.8.6.2 1. The parameters in Table 4.8.2.3.2-1 meet the Category B limits,

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 ~~at least 10~~ representative connected cells is ~~above~~ ≥ 60°F. LA.1 L.7

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 and terminal connection is less than or equal to 150 x 10^{-6} ohm, and

4. The battery charger will supply a load equal to the manufacturer's rating for at least 8 hours.

< See ITS 3.8.4>

A.1

Table 3.8.6-1

TABLE 4.8.2.3.2-1

BATTERY SURVEILLANCE REQUIREMENTS

	Category A	Category B	Category C
	CATEGORY A(1)	CATEGORY B(2)	
Parameter	Limits for each designated pilot cell	Limits for each connected cell	Allowable (3) value for each connected cell
Electrolyte Level	>Minimum level indication mark and < ¼" above maximum level indication mark	>Minimum level indication mark, and < ¼" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 volts	≥ 2.13 volts ~~(c)~~ M.1	> 2.07 volts
Specific Gravity(a)	add proposed footnote (a) L.2 ≥ 1.200(b) L.3	≥ 1.195	Not more than .020 below the average of all connected cells
		Average of all connected cells > 1.205	Average of all connected cells ≥ 1.195(b)

M.2

Note (b) (a) Corrected for electrolyte temperature and level.

Note (c) (b) Or battery charging current is less than 2 amperes when on float charge. add proposed footnote (c) time allowance

~~(c) May be corrected for average electrolyte temperature.~~ M.1

(1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next ~~7~~ 31 days. L4

ACTION A

add proposed Required Action A.1 M.3

(2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within ~~7~~ 31 days. L4

ACTION A

(3) Any Category B parameter not within its allowable value indicates an inoperable battery.

ACTION B

add proposed Action B for electrolyte temperature and category A or B limits not restored A.5

add proposed ACTIONS note A.4

A.1

ITS 3.8.6

ELECTRICAL POWER SYSTEMS

<General Arrangement>

A.2

D.C. DISTRIBUTION - SHUTDOWN

add proposed LCO 3.8.6

LIMITING CONDITION FOR OPERATION

3.8.2.4 As a minimum, Division 1 or Division 2, and Division 3 when the HPCS system is required to be OPERABLE, and Unit 1 Division 2 when the standby gas treatment system and/or the control room and auxiliary electric equipment room emergency filtration system are required to be OPERABLE, of the D.C. distribution system shall be OPERABLE and energized with:

a. Division 1, consisting of;

1. 125-volt battery 2A.
2. 125-volt full capacity charger.
3. 125-volt distribution panel 211Y.

b. Division 2, consisting of;

1. 125-volt battery 2B.
2. 125-volt full capacity charger.
3. 125-volt distribution panel 212Y.

c. Division 3, consisting of;

1. 125-volt battery 2C.
2. 125-volt full capacity charger.
3. 125-volt distribution panel 213.

<See ITS 3.8.5 and 3.8.8>

d. Unit 1 Division 2, consisting of;

1. 125-volt battery 1B.
2. 125-volt full capacity charger.
3. 125-volt distribution panel 112Y.

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

A.3

ACTION:

a. With both Division 1 distribution panel 211Y and Division 2 distribution panel 212Y of the above required D.C. distribution system inoperable or not energized, suspend CORE ALTERATIONS, handling of irradiated fuel cask in the secondary containment and operations with a potential for draining the reactor vessel.

b. With Division 3 distribution panel 213 of the above required D.C. distribution system inoperable or not energized, declare the HPCS system inoperable and take the ACTION required by Specifications 3.5.2 and 3.5.3.

*When handling irradiated fuel in the secondary containment.

A.3

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

c. With one division battery and/or battery charger inoperable, operation may continue provided the Unit tie breakers for the affected division are OPERABLE and aligned to supply power to the affected distribution panel from the associated OPERABLE Unit 1 125-volt D.C. distribution panel; restore the inoperable battery and/or charger to OPERABLE status within 72 hours or declare the division distribution panel inoperable.

d. With Unit 1 Division 2 of the above required D.C. distribution system inoperable or not energized, declare the standby gas treatment system subsystem A and the control room and auxiliary electric equipment room emergency filtration system train A inoperable and take the ACTION required by Specifications 3.6.5.3 and 3.7.2.

e. The provisions of Specification 3.0.3 are not applicable.

<See ITS 3.8.5 and ITS 3.8.8>

SURVEILLANCE REQUIREMENTS

4.8.2.4.1 At least the above required D.C. distribution system electrical division(s) shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and voltage on the panel(s) with an overall voltage of greater than or equal to 125 volts.

~~4.8.2.4.2 At least the above required battery and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.~~ A.4

<See ITS 3.8.8>

PLANT SYSTEMS ← add proposed LCO 3.8.6 and Applicability — A.6

SURVEILLANCE REQUIREMENTS ← add proposed ACTIONS A and B and ACTIONS Note — L.5

c. At least once per 18 months by:

1. Performing a system functional test which includes simulated automatic actuation and verifying that each automatic valve in the flow path actuates to its correct position, but may exclude actual injection of coolant into the reactor vessel.
2. Verifying that the system is capable of providing a flow of greater than or equal to 600 gpm to the reactor vessel when steam is supplied to the turbine at a pressure of 150 ± 15 psig using the test flow path.
3. Performing a CHANNEL CALIBRATION of the discharge line "keep filled" pressure alarm instrumentation and verifying the low pressure setpoint allowable value to be ≥29.0 psig.

<See ITS 3.5.3>

M.5 — add proposed Table 3.8.6-1 Cat A, Cat B, Cat C, second part, limits and footnote (a)

d. By demonstrating MCC-221y and the 250-volt battery and charger OPERABLE:

SR 3.8.6.1 1. At least once per 7 days by verifying that: Category A limits are met — M.4

a) MCC-221y is energized, and has correct breaker alignment, indicated power availability from the charger and battery, and voltage on the panel with an overall voltage of greater than or equal to 250 volts. <See ITS 3.8.7>

Table 3.8.6-1 Cat C limit {b) The electrolyte level of each pilot cell is above the plates, — L.3

Table 3.8.6-1 Cat A limit {c) The pilot cell specific gravity, ~~corrected to 77°F,~~ is greater than or equal to 1.200, and — M.6

Add proposed Table 3.8.6-1 footnote (c)

d) The overall battery voltage is greater than or equal to 250 volts. <See ITS 3.8.4>

SR 3.8.6.2 2. At least once per 92 days by verifying that: Category B limits are met — M.4

Table 3.8.6-1 Cat B limit

a) The voltage ~~of each connected battery~~ [2.13] [cell] is greater than or equal to ~~250~~ volts under float charge ~~and has not decreased more than 12 volts from the value observed during the original test,~~ — L.6, L.6, M.6

b) The specific gravity, ~~corrected to 77°F,~~ of each connected cell is greater than or equal to 1.195 ~~and has not decreased more than 0.05 from the value observed during the previous test,~~ and ← Add proposed average limit — M.5, L.6

Table 3.8.6-1 Cat C limit {c) The electrolyte level of each connected cell is above the plates. — add proposed Table 3.8.6-1 Cat A, Cat B, and Cat C, second part, limits and footnote (a) — M.5

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

a) The battery shows no visual indication of physical damage or abnormal deterioration, and
b) Battery terminal connections are clean, tight, free of corrosion and coated with anticorrosion material.

Add proposed Table 3.8.6-1 footnote (c)

L.3

← add proposed SR 3.8.6.3 — M.4

The provisions of Specification 4.0.4 are not applicably provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the tests.

<See ITS 3.8.4>

add proposed Table 3.8.6-1 Cat A and Cat C float voltage limits — L.6

add proposed Table 3.8.6-1 Cat C specific gravity limits, including footnotes (b) and (c) — M.5

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that 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 BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 The ITS present the battery cell parameters limits in a separate LCO (ITS 3.8.6). Thus, a new LCO statement has been provided reflecting this. The appropriate ACTIONS and SRs have been moved to this LCO also. CTS 4.8.2.4.2 is being deleted since its provisions only reference requirements in CTS 4.8.2.3.2. ITS 3.8.6 contains these current provisions of CTS 4.8.2.3.2 and thus no reference is necessary.

A.3 The Applicability of ITS LCO 3.8.6 is "when associated DC electrical power subsystem is required to be OPERABLE." This covers the current MODES 1, 2, 3, 4, and 5 and fuel handling requirements, and is actually more restrictive for the DC power subsystems since more than one of the batteries may be required in MODES 4 and 5 since the DC sources Applicability has been changed (see Discussion of Change M.1 for ITS: 3.8.5 for further discussion). However, since these restrictions are not discussed in this Specification, these changes are considered administrative in nature.

A.4 This proposed change to the Actions of CTS Table 4.8.2.3.2-1 provides more explicit instructions for proper application of the Actions for Technical Specifications compliance. In conjunction with proposed Specification 1.3, "Completion Times," the ITS 3.8.6 ACTIONS Note ("separate condition entry is allowed for each battery") provides direction consistent with the intent of existing Actions for a battery parameter not within limits. It is intended that each battery with cell parameters not within limits is allowed a certain time to complete the Required Actions. Since this change only provides more explicit direction of the current interpretation of the existing specification, this change is considered administrative.

A.5 A specific Condition has been added in ITS 3.8.6 ACTION B to explicitly require the battery to be declared inoperable when the temperature is not within limit or when Category A or B limits have not been restored within the applicable time. Currently, the battery temperature is a Surveillance in the DC Sources Specification (CTS 4.8.2.3.2.b.3), thus failure of the Surveillance would result in an inoperable battery. Since this Surveillance has been moved to this new Specification (ITS 3.8.6), an ACTION has been provided to require

ADMINISTRATIVE

A.5 (cont'd) the battery to be declared inoperable (ITS 3.8.6 ACTION B, second Condition). The current battery parameter limit actions (CTS Table 4.8.2.3.2-1 footnotes (1), (2), and (3)) do not specifically state to declare the battery inoperable at the end of the allowed restoration time. However, since this is obviously the intent, an ACTION has also been provided (ITS 3.8.6 ACTION B, first Condition). Since this change only provides more explicit direction of the CTS requirements, this change is considered administrative.

A.6 CTS 4.7.3.d provides the Surveillance Requirements for the Division 1 250V DC electrical power subsystem that supplies power to the RCIC System. The ITS present the battery cell parameters limits in a separate LCO (ITS 3.8.6). Thus, a new LCO statement has been provided reflecting this. In addition, the Applicability of ITS 3.8.6 is "when associated DC electrical power subsystem is required to be OPERABLE." This covers the current RCIC System (CTS 3.7.3) Applicability of MODES 1, 2, and 3 with reactor steam dome pressure greater than 150 psig, and is actually more restrictive for the Division 1 250V DC electrical power subsystem since the Division 1 250V DC electrical power subsystem Applicability has been changed (see Discussion of Change M.1 for ITS: 3.8.4 for further discussion). However, since these restrictions are not discussed in this Specification, these changes are considered administrative in nature.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The CTS Table 4.8.2.3.2-1 footnote (c) allowance to correct the Category B float voltage limit for average electrolyte temperature has been deleted based on IEEE-450, 1987 recommendations. This change is an additional restriction on plant operation.

M.2 Additional limitations have been imposed on CTS Table 4.8.2.3.2-1 footnote (b) (ITS Table 3.8.6-1 footnote (c)). These new limitations restrict the use of replacing specific gravity checks with charging current checks to 7 days when the battery is on float change following a battery charge only. Currently there are no restrictions on when this replacement can be used and for how long. In addition, ITS Table 3.8.6-1 footnote (c) also requires an actual specific gravity measurement at the end of the 7 day allowance. These restrictions will avoid excessive reliance on charging current. This change is an additional restriction on plant operations.

TECHNICAL CHANGES - MORE RESTRICTIVE (continued)

M.3 A new requirement has been added to CTS Table 4.8.2.3.2-1 footnotes (1) and (2) for when a Category A or B limit is not met. ITS 3.8.6 Required Action A.1 requires a check within 1 hour that the pilot cell electrolyte level and float voltage are within the Category C limits (CTS Table 4.8.2.3.2-1 Category B allowable values). This action ensures that if the pilot cell is exceeding Category C limits, the battery will be declared inoperable immediately. As such, this change is an additional restriction on plant operation.

M.4 New Surveillance Requirements have been added to CTS 4.7.3.d. Currently, CTS 4.7.3.d.1 only requires pilot cell electrolyte level and specific gravity to be checked every 7 days. ITS SR 3.8.6.1 will require all Category A limits to be verified, which includes not only electrolyte level and specific gravity, but also the individual pilot cell voltage. Also, CTS 4.7.3.d.2 does not require individual cell voltage to be checked every 92 days. ITS SR 3.8.6.2 will require all Category B limits to be verified, which include individual cell voltage. In addition, ITS SR 3.8.6.3 requires the average electrolyte temperature of representative cells to be verified > 60°F for the 125V batteries, and > 65°F for the 250V battery. This requirement is not currently required by CTS 4.7.3.d. These new SRs help ensure the Division 1 250 V DC battery can perform its safety function. These SRs are new restrictions on plant operation.

M.5 CTS 4.7.3.d.1.b) and 4.7.3.d.2.c) requires that the electrolyte level for each connected cell of the Division 1 250V battery be above the plates. ITS Table 3.8.6-1 maintains this current limit as a Category C limit, but also adds an additional restriction that the electrolyte level cannot be overflowing. If this Category C limit is exceeded, the battery will be declared inoperable immediately, consistent with the CTS. In addition, ITS Table 3.8.6-1 will apply new limits, Category A and Category B. These new limits are applicable to each connected cell, including the pilot cell. These new limits will require the electrolyte level to be greater than the minimum level indication mark and less than or equal to 1/4 inch above the maximum level indication mark. These limits are modified by ITS Table 3.8.6-1 footnote (a), which allows the limits to be exceeded during and following an equalizing charge, provided it is not overflowing. If these new limits are exceeded, ITS 3.8.6 ACTION A will require the limits to be restored within 31 days, as well as ensuring the Category C limits continue to be met during this 31 day period. If not restored, ITS 3.8.6 ACTION B requires the associated DC electrical power subsystem to be immediately declared inoperable and the appropriate ACTIONS of ITS 3.8.4 taken (i.e., RCIC and the RCIC PCIV will be declared inoperable and the ACTIONS of the individual System Specifications taken). These new restrictions ensure that the battery electrolyte level is maintained within normal parameters so that the battery can perform its intended function.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.5 (cont'd) In addition, CTS 4.7.3.d does not provide any specific gravity requirements for the average of all connected cells, or a limit for the deviation from the average for an individual cell. ITS Table 3.8.6-1 provides a Category B limit for all connected cells and a Category C limit for all connected cells, and provides a Category C limit for the deviation from the average for an individual cell. The limits are modified by two footnotes. ITS 3.8.6-1 footnotes (b) and (c) require the specific gravity to be corrected for electrolyte temperature and level, and allows a charging current requirement to substitute for the specific gravity requirement under certain conditions. When the Category C limit is not met, ITS 3.8.6 ACTION B requires the associated DC electrical power subsystem to be immediately declared inoperable and the appropriate ACTIONS of ITS 3.8.4 taken. When the Category B limit is exceeded, ITS 3.8.6 ACTION A will require the limits to be restored within 31 days, as well as ensuring the Category C limits continue to be met during this 31 day period. If not restored, ITS 3.8.6 ACTION B requires the associated DC electrical power subsystem to be immediately declared inoperable and the appropriate ACTIONS of ITS 3.8.4 taken. These new restrictions ensure that the battery specific gravity is sufficient to ensure the battery can perform its intended function.

M.6 CTS 4.7.3.d.1.c) and 4.7.3.d.2.b) requires the specific gravity to be corrected for temperature. ITS Table 3.8.6-1 footnote (b) maintains this requirement, but also adds a requirement that the specific gravity be corrected for electrolyte level. This ensures that level variations are properly accounted for in the determination of the actual specific gravity. This more restrictive requirement helps ensure that the battery can perform its intended function.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 IEEE-450 (from which this CTS 4.8.2.3.2.b.3 Surveillance is derived) requires only "representative" cells be measured for temperature; every sixth cell (which is approximately 10 cells for the LaSalle 1 and 2 125V batteries) is provided as a suggestion only in IEEE-450. Therefore, the details relating to the plant specific determination of "representative" are proposed to be relocated to the Bases. The details proposed to be relocated are not necessary to ensure adequate verification of battery cell average electrolyte temperature is performed and battery OPERABILITY maintained. ITS 3.8.6 and associated SR 3.8.6.3 are adequate to ensure verification of battery cell average electrolyte temperature is performed

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.1 (cont'd) As such, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

"Specific"

L.1 The requirement in CTS 4.8.2.3.2.b to verify that the average electrolyte temperature of selected battery cells is above 60°F within 7 days after a battery discharge or overcharge has been removed. This is consistent with the nature of the condition being verified, i.e., that the battery temperature has not decreased since severe discharging and overcharging generally increase the battery electrolyte temperature.

L.2 ITS Table 3.8.6-1 footnote (a) has been added to the electrolyte level limits for Table 3.8.6-1, Category A and B limits (CTS Table 4.8.2.3.2-1, Category A and B limits). This footnote allows for a temporary electrolyte level increase during and following an equalize charge, and is based on guidance from Appendix A to IEEE-450, 1980. The level excursion is due to gas generation during the equalize charge and would be expected to return to normal within 3 days following completion of the equalize charge.

L.3 The allowance in CTS Table 4.8.2.3.2-1 (ITS Table 3.8.6-1 footnote (c)) for utilizing charging current in lieu of specific gravity is applied to all Category limits. Currently, this allowance is not provided for Category B limits or part of the Category B allowable values. In addition, the allowance is also applied to the specific gravity requirements for the Division 1 250V battery in CTS 4.7.3.d.1.c) and 4.7.3.d.2.b). This allowance is acceptable since all connected cells are affected by a battery charge, and charging current is a more accurate indication of battery state following a charge than is specific gravity. This is also consistent with the recommendations of IEEE-450, 1980.

L.4 The time specified in CTS Table 4.8.2.3.2-1 footnotes (1) and (2) to restore Category A and B battery cell parameters to within limits has been extended from the next 7 days and 7 days, respectively, to 31 days in ITS 3.8.6 Required Action A.3. During this time sufficient battery capacity exists to perform its intended function. In addition, periodic verification that the Category C limits are not being exceeded must be performed. ITS 3.8.6 Required Action A.2 requires this verification every 7 days. This action will further ensure that

TECHNICAL CHANGES - LESS RESTRICTIVE

L.4 (cont'd) during this additional time, the battery can perform its intended function. These changes are consistent with IEEE battery working group recommendations in a letter from B.M. Radimer (IEEE) to S.K. Agarwal (NRC) dated August 2, 1988 and are also consistent with the BWR ISTS, NUREG-1434, Rev. 1.

L.5 Currently, if a Division 1 250V battery cell is not within the limits of CTS 4.7.3.d.1 or 2, the RCIC System is required to be declared inoperable and the ACTIONS of CTS 3.7.3 taken. A 31 day Completion Time for restoring a Division 1 250V battery cell has been provided (ITS 3.8.6 Required Action A.3). This Completion Time is considered acceptable since sufficient battery capacity exists to perform the intended function and to allow time to fully restore battery cell parameters to normal limits. This change is consistent with IEEE Battery Working Group (BWG) recommendations in a letter from B.M. Radimer (IEEE BWG) to S.K. Aggarwal (NRC) dated August 2, 1988. To support this new time, two additional requirements have been added. ITS 3.8.6 Required Action A.1 has been provided to verify the Division 1 250V battery pilot cell electrolyte level and float voltage are within allowable values (Category C limits) within 1 hour when Category A or B parameters are not within limits. This change provides a quick indiction of the status of the remainder of the battery cells. ITS 3.8.6 Required Action A.2 has been provided to verify Division 1 250V battery cell parameters for all the cells are within Category C limits within 24 hours when Category A or B parameters are not within limits. These Category C values are the limits at which the battery would be considered immediately inoperable. These limits are not currently specified in the CTS with the exception of a portion of the electrolyte level Category C limit (see Discussion of Change M.5 above and L.6 below). This change provides assurance the battery is still capable of performing its intended function. If Category C limits are not met or the Category A and B limits are not restored within 31 days, ITS 3.8.6 ACTION B requires the Division 1 250V DC electrical power subsystem to be immediately declared inoperable and the appropriate ACTIONS of ITS 3.8.4 be taken. The requirements of the Actions in ITS 3.8.4 are consistent with the current Actions in CTS 3.7.3.

L.6 CTS 4.7.3.d.2.a) requires, for the Division 1 250V battery, that the voltage for each connected battery is greater than or equal to 250V under float charge. This voltage limits has been changed to an individual cell voltage limit. ITS Table 3.8.6-1 provides a Category A, B, and C limit for individual cells. The new Category A and B limit is 2.13 V per cell and the new Category C limit is 2.07 V per cell. If the new limits are not met, the appropriate ITS 3.8.6 ACTIONS will be taken, as described in Discussion of Change L.5 above). The current limit of 250V is based upon the nominal rating of the battery. The new

TECHNICAL CHANGES - LESS RESTRICTIVE

L.6 (cont'd) limits are based on the recommendations of the vendor and of IEEE-450. With an individual cell voltage as low as 2.07, the battery will still be able to perform its intended function. ITS SR 3.8.4.1 will continue to require the battery terminal voltage to be verified against a limit while on float charge. Therefore, this change is considered acceptable.

In addition, CTS 4.7.3.d.2.a) requires that the voltage decrease from the value observed during the original test not exceed 12 volts and CTS 4.7.3.d.2.b) requires that the specific gravity decrease from the value observed during the previous test not exceed 0.05. These requirements are not maintained in the ITS. Degradation does not necessarily mean that the battery is inoperable; it is just indicating that the battery is aging and that its capacity is reduced. Two new Surveillances have been added that require a battery service test and a battery modified performance discharge or performance discharge test to be performed (See Discussion of Change M.2 for ITS 3.8.4). These new SRs are adequate for ensuring that degradation that could impact the battery's ability to perform its intended function has not occurred. Therefore, these changes are considered acceptable.

L.7 The battery cell electrolyte temperature limit of CTS 4.8.2.3.2.b.3 (ITS SR 3.8.6.3) has been slightly increased to allow electrolyte temperature to be equal to 60° F. The engineering design calculation for the 125V 1E batteries assumes that minimum battery cell electrolyte temperature is 60°F, not greater than 60°F.

RELOCATED SPECIFICATIONS

None

A.1

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

A. C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

LCO 3.8.7

3.8.2.1 The following A.C. distribution system electrical divisions shall be OPERABLE ~~and energized~~: LA.1

a. Division 1, consisting of;

1. 4160 volt bus 141Y.
2. 480 volt buses 135X and 135Y.
3. 480 volt MCCs 135X-1, 135X-2, 135X-3, 135Y-1 and 135Y-2.
4. 120 volt A.C. distribution panels in 480 volt MCCs 135X-1, 135X-2, 135X-3 and 135Y-1.

b. Division 2, consisting of;

1. 4160 volt bus 142Y.
2. 480 volt buses 136X and 136Y.
3. 480 volt MCCs 136X-1, 136X-2, 136X-3, 136Y-1 and 136Y-2.
4. 120 volt A.C. distribution panels in 480 volt MCCs 136X-1, 136X-2, 136X-3 and 136Y-2.

LA.1

c. Division 3, consisting of;

1. 4160 volt bus 143.
2. 480 volt MCC 143-1.
3. 120 volt A.C. distribution panels in 480 volt MCC 143-1.

moved to ITS 3.8.1

d. Unit 2 Division 1, consisting of;

1. 4160 volt bus 241Y.
2. Breaker 2414 OPERABLE or closed.

A.2

e. Unit 2 Division 2, consisting of;

1. 4160 volt bus 242Y.
2. 480 volt buses 236X and 236Y.
3. 480 volt MCCs 236X-1, 236X-2, 236X-3, 236Y-1, and 236Y-2.
4. 120 volt A.C. distribution panels in 480 volt MCCs 236X-1, 236X-2, 236X-3, and 236Y-2.

LA.1

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

add proposed description of equipment required to be supported by opposite unit bus A5

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

L.1

M.1

ACTION:

LA.1

add proposed second Completion Time

ACTION A a. With either Division 1 or Division 2 of the above required A.C. distribution system inoperable ~~or not energized~~, restore the inoperable division to OPERABLE ~~and energized~~ status within 8 hours

ACTION D or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours

LA.1 M.4 A.3

ACTION E b. With Division 3 of the above required A.C. distribution system inoperable ~~or not energized~~, declare the HPCS system inoperable ~~and take the ACTION required by Specification 3.5.1.~~

A.2

moved to ITS 3.8.1

ACTION C c. With ~~Unit 2 Division 1 or~~ Unit 2 Division 2 of the above required A.C. distribution systems inoperable ~~or not energized~~, restore the inoperable division to OPERABLE ~~and energized~~ status within 7 days

ACTION D or be in at least HOT SHUTDOWN within the next 12-hours and in COLD SHUTDOWN within the following 24 hours.

LA.1

~~d. With both Unit 2 Division 1 and Unit 2 Division 2 of the above required A.C. distribution systems inoperable or not energized, restore at least one of the inoperable A.C. distribution systems to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.~~ L.2

Add proposed ACTION G M.2 L.1

SURVEILLANCE REQUIREMENTS

SR 3.8.7.1 4.8.2.1 The above required A.C. distribution system electrical divisions shall be determined OPERABLE ~~and energized~~ at least once per 7 days by verifying correct breaker alignment and voltage on the busses/panels.

LA.1

A.1

LIMITING CONDITION FOR OPERATION

3.8.2.3 The following D.C. distribution system electrical divisions shall be OPERABLE ~~and energized~~: LA.1

a. Division 1, ~~consisting of:~~ LA.1
   1. 125-volt battery 1A.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 111Y.~~

b. Division 2, ~~consisting of:~~ LA.1
   1. 125-volt battery 1B.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 112Y.~~

c. Division 3, ~~consisting of:~~ LA.1
   1. 125-volt battery 1C.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 113.~~

d. Unit 2 Division 2, ~~consisting of:~~ LA.1
   1. 125-volt battery 2B.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 212Y.~~ LA.1

See ITS 3.8.4

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

L.1

M.1

ACTION:

LA.1

add proposed second Completion Time

ACTION B / ACTION D
a. With either Division 1 or Division 2 inoperable ~~or not energized~~, restore the inoperable division to OPERABLE ~~and energized~~ 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.

LA.1

ACTION E
b. With Division 3 inoperable ~~or not energized~~, declare the HPCS system inoperable ~~and take the ACTION required by Specification 3.5.1.~~ A.3

ACTION C / ACTION D
c. With Unit 2 Division 2 inoperable ~~or not energized~~, restore the inoperable division to OPERABLE ~~and energized~~ 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.1

add proposed description of equipment required to be supported by opposite unit bus A.5

add proposed ACTION G M.2 L.1

SURVEILLANCE REQUIREMENTS

SR 3.8.7.1 4.8.2.3.1 Each of the above required D.C. distribution system electrical divisions shall be determined OPERABLE ~~and energized~~ at least once per 7 days by verifying correct breaker alignment, indicated power availability from the charger and battery, and voltage on the panel with an overall voltage of greater than or equal to 125 volts. LA.1 LA.2

4.8.2.3.2 Each 125-volt battery and charger shall be demonstrated OPERABLE:

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

1. The parameters in Table 4.8.2.3.2-1 meet the Category A limits, and

2. Total battery terminal voltage is greater than or equal to 128 volts on float charge.

b. At least once per 92 days and within 7 days after a battery discharge with battery voltage below 110 volts, or battery overcharge with battery terminal voltage above 150 volts, by verifying that:

1. The parameters in Table 4.8.2.3.2-1 meet the Category B limits,

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 ITS 3.8.4>

3. The average electrolyte temperature of at least 10 connected cells is above 60°F.

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 anti-corrosion material,

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

4. The battery charger will supply a load equal to the manufacturer's rating for at least 8 hours.

Add proposed ITS 3.8.7 Applicability M.3

c. At least once per 18 months by:

1. Performing a system functional test which includes simulated automatic actuation and verifying that each automatic valve in the flow path actuates to its correct position, but may exclude actual injection of coolant into the reactor vessel.

(See ITS 3.5.3) 2. Verifying that the system is capable of providing a flow of greater than or equal to 600 gpm to the reactor vessel when steam is supplied to the turbine at a pressure of 150 ± 15 psig using the test flow path.

3. Performing a CHANNEL CALIBRATION of the discharge line "keep filled" pressure alarm instrumentation and verifying the low pressure setpoint allowable value to be ≥29 psig.

Add proposed LCO 3.8.7 for Div 1 250 V and ACTION F

A.4

d. *By demonstrating MCC-121y and the 250-volt battery and charger OPERABLE: LA.1

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

SR 3.8.7.1 a) MCC-121y ~~is energized,~~ and has correct breaker alignment, ~~indicated power availability from the charger and battery, and voltage on the panel with an overall voltage of greater than or equal to 250 volts,~~ LA.2

(See ITS 3.8.6) b) The electrolyte level of each pilot cell is above the plates,
c) The pilot cell specific gravity, corrected to 77°F, is greater than or equal to 1.200, and

(See ITS 3.8.4) d) The overall battery voltage is greater than or equal to 250 volts.

2. At least once per 92 days by verifying that:

(See ITS 3.8.6)

a) The voltage of each connected battery is greater than or equal to 250 volts under float charge and has not decreased more than 12 volts from the value observed during the original test,
b) The specific gravity, corrected to 77°F, of each connected cell is greater than or equal to 1.195 and has not decreased more than 0.05 from the value observed during the previous test, and
c) The electrolyte level of each connected cell is above the plates.

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

(See ITS 3.8.4)

a) The battery shows no visual indication of physical damage or abnormal deterioration, and
b) Battery terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

(See ITS 3.8.4)

*The provisions of Specification 4.0.4 are not applicably provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the tests.

ITS 3.8.7

A.1

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

A. C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

LCO 3.8.7

3.8.2.1 The following A.C. distribution system electrical divisions shall be OPERABLE ~~and energized~~: LA.1

a. Division 1, ~~consisting of;~~

~~1. 4160-volt bus 241Y.~~
~~2. 480-volt busses 235X and 235Y.~~
~~3. 480-volt MCCs 235X-1, 235X-2, 235X-3, 235Y-1 and 235Y-2.~~
~~4. 120-volt A.C. distribution panels in 480-volt MCCs 235X-1, 235X-2, 235X-3 and 235Y-1.~~

b. Division 2, ~~consisting of;~~

~~1. 4160-volt bus 242Y.~~
~~2. 480-volt busses 236X and 236Y.~~
~~3. 480-volt MCCs 236X-1, 236X-2, 236X-3, 236Y-1 and 236Y-2.~~
~~4. 120-volt A.C. distribution panels in 480-volt MCCs 236X-1, 236X-2, 236X-3 and 236Y-2.~~

LA.1

c. Division 3, ~~consisting of;~~

~~1. 4160-volt bus 243.~~
~~2. 480-volt MCC 243-1.~~
~~3. 120-volt A.C. distribution panels in 480-volt MCC 243-1.~~

d. Unit 1 Division 1, consisting of;

1. 4160-volt bus 141Y.
2. Breaker 1414 OPERABLE or closed.

A.2 moved to ITS 3.8.1

e. Unit 1 Division 2, ~~consisting of;~~

~~1. 4160-volt bus 142Y.~~
~~2. 480-volt busses 136X and 136Y.~~
~~3. 480-volt MCCs 136X-1, 136X-2, 136X-3, 136Y-1, and 136Y-2.~~
~~4. 120-volt A.C. distribution panels in 480 volt MCCs 136X-1, 136X-2, 136X-3, and 136Y-2.~~

LA.1

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

add proposed description of equipment required to be supported by opposite unit bus A.5

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

L.1

ACTION:

LA.1

add proposed Second Completion time

M.1

ACTION A
a. With either Division 1 or Division 2 of the above required A.C. distribution system inoperable ~~or not energized~~, restore the inoperable division to OPERABLE ~~and energized~~ status within 8 hours

ACTION D
or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours

LA.1 M.4 A.3

ACTION E
b. With Division 3 of the above required A.C. distribution system inoperable ~~or not energized~~, declare the HPCS system inoperable ~~and take the ACTION required by Specification 3.5.1.~~

A.2

moved to ITS 3.8.1

ACTION C
c. With Unit 1 Division 1 or Unit 1 Division 2 of the above required A.C. distribution systems inoperable ~~or not energized~~, restore the inoperable division to OPERABLE ~~and energized~~ status within 7 days

ACTION D
or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

LA.1

~~d. With both Unit 1 Division 1 and Unit 1 Division 2 of the above required A.C. distribution systems inoperable or not energized, restore at least one of the inoperable A.C. distribution systems to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.~~

L.2

add proposed Action G

M.2

L.1

SURVEILLANCE REQUIREMENTS

LA.1

SR 3.8.7.1
4.8.2.1 The above required A.C. distribution system electrical divisions shall be determined OPERABLE ~~and energized~~ at least once per 7 days by verifying correct breaker alignment and voltage on the busses/panels.

A.1

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.3 The following D.C. distribution system electrical divisions shall be OPERABLE ~~and energized~~: LA.1

a. Division 1, ~~consisting of:~~ LA.1
   1. 125-volt battery 2A.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 211Y.~~

b. Division 2, ~~consisting of:~~ LA.1
   1. 125-volt battery 2B.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 212Y.~~

c. Division 3, ~~consisting of:~~ LA.1
   1. 125-volt battery 2C.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 213.~~

d. Unit 1 Division 2, ~~consisting of:~~ LA.1
   1. 125-volt battery 1B.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 112Y.~~ LA.1

See ITS 3.8.4

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

L.1

M.1

add proposed Second Completion time

a. ACTION B / ACTION D — With either Division 1 or Division 2 inoperable ~~or not energized~~, restore the inoperable division to OPERABLE ~~and energized~~ 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. LA.1

b. ACTION E — With Division 3 inoperable ~~or not energized~~, declare the HPCS system inoperable ~~and take the ACTION required by Specification 3.5.1.~~ A.3

c. ACTION C / ACTION D — With Unit 1 Division 2 inoperable ~~or not energized~~, restore the inoperable division to OPERABLE ~~and energized~~ 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.1

add proposed description of equipment required to be supported by opposite unit bus A5

add proposed ACTION G M2 L.1

SURVEILLANCE REQUIREMENTS

SR 3.8.7.1 4.8.2.3.1 Each of the above required D.C. distribution system electrical divisions shall be determined OPERABLE ~~and energized~~ at least once per 7 days by verifying correct breaker alignment, indicated power availability from the charger and battery, and voltage on the panel with an overall voltage of greater than or equal to 125 volts. LA.1 LA.2

4.8.2.3.2 Each 125-volt battery and charger shall be demonstrated OPERABLE:

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

1. The parameters in Table 4.8.2.3.2-1 meet the Category A limits, and
2. Total battery terminal voltage is greater than or equal to 128 volts on float charge.

b. At least once per 92 days and within 7 days after a battery discharge with battery voltage below 110 volts, or battery overcharge with battery terminal voltage above 150 volts, by verifying that:

1. The parameters in Table 4.8.2.3.2-1 meet the Category B limits,
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 at least 10 connected cells is above 60°F.

<See ITS 3.8.4>

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 and terminal connection is less than or equal to 150 x 10^{-6} ohm, and
4. The battery charger will supply a load equal to the manufacturer's rating for at least 8 hours.

add proposed ITS 3.8.7 Applicability M.3

c. At least once per 18 months by:

1. Performing a system functional test which includes simulated automatic actuation and verifying that each automatic valve in the flow path actuates to its correct position, but may exclude actual injection of coolant into the reactor vessel.
2. Verifying that the system is capable of providing a flow of greater than or equal to 600 gpm to the reactor vessel when steam is supplied to the turbine at a pressure of 150 ± 15 psig using the test flow path.
3. Performing a CHANNEL CALIBRATION of the discharge line "keep filled" pressure alarm instrumentation and verifying the low pressure setpoint allowable value to be >29.0 psig.

<See ITS 3.5.3>

d. *By demonstrating MCC-221y and the 250-volt battery and charger OPERABLE:

<See ITS 3.5.3>

add proposed LCO 3.8.7 for Div 1 250V and ACTION F

A.4

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

SR3.8.7.1 a) MCC-221y ~~is energized~~, and has correct breaker alignment, ~~indicated power availability from the charger and battery, and voltage on the panel~~ ~~with an overall voltage of greater than or equal to 250 volts.~~

LA.1

LA.2

b) The electrolyte level of each pilot cell is above the plates,

c) The pilot cell specific gravity, corrected to 77°F, is greater than or equal to 1.200, and

<See ITS 3.8.6>

d) The overall battery voltage is greater than or equal to 250 volts.

<See ITS 3.8.4>

2. At least once per 92 days by verifying that:

a) The voltage of each connected battery is greater than or equal to 250 volts under float charge and has not decreased more than 12 volts from the value observed during the original test,
b) The specific gravity, corrected to 77°F, of each connected cell is greater than or equal to 1.195 and has not decreased more than 0.05 from the value observed during the previous test, and
c) The electrolyte level of each connected cell is above the plates.

<See ITS 3.8.6>

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

a) The battery shows no visual indication of physical damage or abnormal deterioration, and
b) Battery terminal connections are clean, tight, free of corrosion and coated with anticorrosion material.

<See ITS 3.8.4>

<See ITS 3.5.3>

*The provisions of Specification 4.0.4 are not applicably provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the tests.

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that 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 BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 CTS LCO 3.8.2.1.d requires the opposite unit Division 1 4.16 kV bus (141Y and 241Y) and supply breaker (1414 and 2414) to be OPERABLE. These buses/breakers provide the method to tie the alternate offsite circuit to the given unit. Therefore, this requirement, including the portion of CTS 3.8.2.1 Action c concerning the opposite unit Division 1 buses/breakers is being moved to ITS 3.8.1. This is in accordance with the format of the BWR ISTS, NUREG-1434, Rev. 1. Any technical changes to this requirement are addressed in the Discussion of Changes for ITS 3.8.1.

A.3 CTS 3.8.2.1 Action b and 3.8.2.3 Action b require the HPCS System to be declared inoperable and to take the ACTION required by Specification 3.5.1 when a Division 3 distribution subsystem is inoperable. The format of the ITS does not include providing "cross references." ITS 3.5.1 adequately prescribes the Required Actions for an inoperable HPCS System without such references. Therefore the existing reference to "take the ACTION required by Specification 3.5.1" in CTS 3.8.2.1 Action b and 3.8.2.3 Action b serves no functional purpose, and its removal is purely an administrative difference in presentation.

A.4 The Division 1 250 VDC motor control center requirements have been moved from the RCIC Specification (CTS 3/4.7.3) to the AC and DC Distribution System - Operating (proposed ITS 3.8.7). This requirement is covered by the ITS LCO 3.8.7, which requires the Division 1 DC distribution subsystems to be OPERABLE. In CTS 3/4.7.3, if the Division 1 250 V DC motor control center is inoperable, RCIC and one of the RCIC PCIVs would be considered inoperable and the appropriate ACTIONS would be entered. Therefore, new ITS 3.8.7 ACTION F is also being added to declare RCIC and the RCIC PCIVs (i.e, the associated supported features) inoperable immediately when the Division 1 250 V DC motor control center is inoperable. Since this new LCO and ACTION are identical to the current requirements, this change is considered administrative.

ADMINISTRATIVE (continued)

A.5 A clarification has been added to the requirements in CTS 3.8.2.1 for opposite unit Division 2 AC electrical power distribution buses and CTS 3.8.2.3 for opposite unit Division 2 DC electrical power distribution buses. This clarification adds a description of the equipment required to be supported by the opposite unit Division 2 AC and DC electrical power distribution buses, i.e., equipment required to be OPERABLE by LCO 3.6.3.1, "Primary Containment Hydrogen Recombiners," LCO 3.6.4.3, "Standby Gas Treatment (SGT) System, LCO 3.7.4, "Control Room Area Filtration (CRAF) System," LCO 3.7.5, "Control Room Area Ventilation Air Conditioning (AC) System, and LCO 3.8.1, "AC Sources - Operating." The equipment required by these Specifications is common for both units and is supplied by Division 2 AC and DC electrical power distribution buses of both units. This change is considered administrative since the modification simply clarifies the intent of the existing CTS requirements.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The Completion Times of ITS 3.8.7 ACTIONS A and B have a limitation in addition to the 8 hour or 2 hour limit of CTS 3.8.2.1 Action a and 3.8.2.3 Action a. This additional limit establishes a maximum time allowed for any combination of distribution subsystems listed in ITS LCO 3.8.7.a to be inoperable during any single contiguous occurrence of failing to meet the LCO. If a Division 1 AC distribution subsystem is inoperable while, for instance, a Division 1 125 V DC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This situation could lead to a total duration of 10 hours since initial failure of the LCO to restore the Division 1 125 V DC distribution system. Then, a Division 1 AC subsystem could again become inoperable, and the DC distribution restored OPERABLE. This could continue indefinitely. Therefore, to preclude this situation and place an appropriate restriction on any such unusual situation, the additional Completion Time of "16 hours from discovery of failure to meet LCO 3.8.7.a" is proposed.

M.2 CTS 3.8.2.1 Action a allows 8 hours to restore one inoperable AC subsystem and CTS 3.8.2.3 Action a allows 2 hours to restore one inoperable DC subsystem. Certain combinations of inoperable AC and DC subsystems will result in a loss of safety function (e.g., an inoperable Division 1 AC subsystem in combination with an inoperable Division 2 DC subsystem). ITS 3.8.7 adds

TECHNICAL CHANGES - MORE RESTRICTIVE

M.2 (cont'd) ACTION G, which requires entry into ITS 3.0.3 if the loss of two or more electrical power distribution subsystems results in a loss of safety function. ITS 3.8.7 Required Action G.1 preserves the intent of ITS 3.0.3 and reflects an additional restriction on plant operation.

M.3 CTS 4.7.3.d provides the Surveillance Requirements for the Division 1 250 V DC motor control center that supplies power to the RCIC System. The ITS presents the Division 1 250 VDC motor control center in the same Specifications as the AC and DC distribution subsystems. Therefore, a new LCO statement has been provided reflecting this. This portion of the change is administrative and is covered by Discussion of Change A.4. However, the Applicability of CTS 3.7.3 is MODES 1, 2, and 3 with reactor steam dome pressure greater than 150 psig. The ITS 3.8.7 Applicability covers all MODES 1, 2 and 3, not just when the reactor steam dome pressure is greater than 150 psig. This change is necessary since the Division 1 250 V DC motor control center also provides power to the RCIC primary containment isolation valve (PCIV). The RCIC PCIV is required by CTS 3.6.3 to be OPERABLE in MODES 1, 2, and 3. Therefore, to ensure the RCIC PCIV has the necessary electrical power to operate and perform its safety function (to close on the appropriate signals), this more restrictive change to the Applicability is required.

M.4 CTS 3.8.2.1 Action b requires that the HPCS System be declared inoperable when Division 3 of the A.C. distribution system is inoperable. However, the HPCS System is not the only affected engineered safety feature supported by Division 3 of the A.C. distribution system. Therefore, the associated ITS 3.8.7 Required Action will require that the "associated supported features" be declared inoperable. This will include both the HPCS System and the associated primary containment isolation valves. This is an additional restriction on plant operation.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The details of CTS 3.8.2.1 (including Actions a, b, and c), 3.8.2.3 (including Actions a, b, and c), 4.8.2.1, 4.8.2.3.1, and 4.7.3.d relating to system design and OPERABILITY are proposed to be relocated to the Bases. The details for system OPERABILITY are not necessary in the LCO. The definition of OPERABILITY suffices. The design details are not necessary to be included in the Technical Specifications to ensure the OPERABILITY of the Distribution

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.1 (cont'd) Systems since OPERABILITY requirements are adequately addressed in ITS 3.8.7, "Distribution Systems — Operating." Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 CTS 4.8.2.3.1 and 4.7.3.d.1.a details (the voltage limit and that the charger and battery provide the power) for verifying the required Distribution Systems are OPERABLE are proposed to be relocated to the UFSAR. These details are not necessary to ensure the OPERABILITY of the Distribution Systems. The requirements of ITS 3.8.7 and proposed SR 3.8.7.1 are adequate to ensure the required Distribution Systems are maintained OPERABLE. Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the UFSAR are controlled by 10 CFR 50.59. In addition, any changes to the loads placed on the DG will be controlled by 10 CFR 50.59 (a design change is required to change the actual loads).

"Specific"

L.1 CTS 3.8.2.1 Action a allows 8 hours to restore one inoperable AC subsystem and CTS 3.8.2.3 Action a allows 2 hours to restore one inoperable DC subsystem. No time is provided if buses are inoperable in Division 1 and 2 AC subsystems concurrently or in Division 1 and 2 DC subsystems concurrently. Thus a CTS 3.0.3 entry is required. ITS 3.8.7 ACTIONS A and B allow one "or more" AC and DC electrical power distribution subsystems to be concurrently inoperable, without requiring an ITS 3.0.3 entry; either 8 hours or 2 hours (8 hours for AC and 2 hours for DC) will be allowed to restore the inoperabilities. However, ITS 3.8.7 ACTION G is also added to require that if two or more electrical power distribution subsystems are inoperable and result in a loss of function, then ITS 3.0.3 must be entered immediately. Thus if both Division 1 and Division 2 AC subsystems have similar buses inoperable, which result in a loss of function, ITS 3.8.7 ACTION G will ensure ITS 3.0.3 is entered, consistent with the CTS. This will ensure that the proper actions are taken if a loss of function occurs. Assuming a loss of function has not occurred, the addition of the words "or more" are acceptable since, during this time, sufficient AC and DC buses are Operable to meet the accident analysis (assuming no additional single failure). Therefore, these changes will have negligible impact on plant safety.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.2 CTS 3.8.2.1.d requires the opposite unit Division 1 4.16 kV bus and cross-tie breaker be OPERABLE. The opposite unit's Division 1 4.16 kV bus does not provide power to any opposite unit equipment required by the given unit; only the opposite unit's Division 2 AC buses provide power to equipment required by the given unit. The purpose of CTS 3.8.2.1.d is to support the alternate offsite circuit pathway to the given unit. As such, this requirement has been moved to ITS 3.8.1 (See Discussion of Change A.2 above). CTS 3.8.2.1 Action d requires that if both the opposite unit's Division 1 and 2 buses are inoperable, one of them must be restored within 8 hours or a shutdown is required. This requirement is overly restrictive and has not been included in the ITS. If both the opposite unit Division 1 bus/breaker and Division 2 buses are inoperable, the given unit has only lost power to a few loads (e.g., one SGT subsystem, one hydrogen recombiner, one control room area filtration subsystem, and one control room area AC subsystem) that are required by the ITS. The remaining required loads are all powered from the given unit, and have the normal offsite circuit providing power to them with a DG as the backup; all remaining loads still have two sources of power. In addition, if the alternate offsite circuit is inoperable for a reason other than the opposite unit Division 1 bus or cross-tie breaker being inoperable, and the opposite unit equipment (powered from the opposite unit's Division 2 buses) were inoperable for a reason other than a loss of the distribution buses, CTS 3.8.1.1 Action a (ITS 3.8.1 ACTION A) would allow 72 hours to restore the alternate offsite circuit and the individual System Specifications (CTS 3.6.5.3, 3.6.6.1, and 3.7.2) would allow 7 days to restore the equipment. These Actions would be entered concurrently with no reduction in a Completion Time. Also, during the 72 hour time allowed for the alternate offsite circuit, the ITS will require verifications that a loss of function has not occurred. This ensures no safety functions are lost during the entire 72 hours Completion Time period. Therefore, deletion of this specific requirement and allowing ITS 3.8.1 ACTION A and ITS 3.8.7 ACTION C to govern the restoration time for these components (alternate offsite circuit and opposite unit Division 2 AC buses) is considered acceptable.

RELOCATED SPECIFICATIONS

None

ITS 3.8.8

A.1

ELECTRICAL POWER SYSTEMS

A.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO 3.8.8 3.8.2.2 As a minimum, Division 1 or Division 2, and Division 3 when the HPCS system is required to be OPERABLE, and Unit 2 Division 2 when the standby gas treatment system and/or the control room and auxiliary electric equipment room emergency filtration system are required to be OPERABLE, of the A.C. distribution system shall be OPERABLE ~~and energized~~ with: to support equipment required to be OPERABLE

M.1

LA.1

a. Division 1, consisting of;
   1. 4160 volt bus 141Y.
   2. 480 volt buses 135X and 135Y.
   3. 480 volt MCCs 135X-1, 135X-2, 135X-3, 135Y-1 and 135Y-2.
   4. 120 volt A.C. distribution panels in 480 volt MCCs 135X-1, 135X-2, 135X-3 and 135Y-1.
b. Division 2, consisting of;
   1. 4160 volt bus 142Y.
   2. 480 volt buses 136X and 136Y.
   3. 480 volt MCCs 136X-1, 136X-2, 136X-3, 136Y-1 and 136Y-2.
   4. 120 volt A.C. distribution panels in 480 volt MCCs 136 X-1, 136X-2, 136X-3 and 136Y-2.
c. Division 3, consisting of;
   1. 4160 volt bus 143
   2. 480 volt MCC 143-1.
   3. 120 volt A.C. distribution panels in 480 volt MCC 143-1.
d. Unit 2 Division 2, consisting of;
   1. 4160 volt bus 242Y.
   2. 480 volt buses 236X and 236Y.
   3. 480 volt MCCs 236X-1, 236X-2, 236X-3, and 236Y-1.
   4. 120 volt A.C. distribution panels in 480 volt MCCs 236X-1, 236X-2, and 236X-3.

LA.1

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

APPLICABILITY ~~*When handling irradiated fuel in the secondary containment.~~

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

M.1

ACTION:

one or more required

add proposed Required Action A.1

ACTION A

a. With ~~both~~ Division 1 and 2 of the above required A.C. distribution system inoperable ~~or not energized~~, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel. add proposed Required Actions A.2.4 and A.2.5 M.2

b. With Division 3 of the above required A.C. distribution system inoperable ~~or not energized~~, declare the HPCS system inoperable ~~and take the ACTION required by Specifications 3.5.2 and 3.5.3.~~ M.3 add proposed Required Actions A.2.1, A.2.2, and A.2.3 add proposed Required Action A.2.4 A.2

c. With Unit 2 Division 2 of the above required A.C. distribution system inoperable ~~or not energized~~, declare the standby gas treatment system subsystem B and control room and auxiliary electric equipment room emergency filtration system train B inoperable ~~and take the ACTION required by Specifications 3.6.5.3 and 3.7.2.~~ M.2 A.2 A.3

Note to ACTIONS

d. The provisions of Specification 3.0.3 are not applicable.

add proposed Required Actions A.2.1, A.2.2, and A.2.3

SURVEILLANCE REQUIREMENTS

LA.1

SR 3.8.8.1 4.8.2.2 At least the above required A.C. distribution system electrical division(s) shall be determined OPERABLE ~~and energized~~ at least once per 7 days by verifying correct breaker alignment and voltage on the busses/panels. LA.2

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - SHUTDOWN

A.1

LIMITING CONDITION FOR OPERATION

LCO 3.8.8

3.8.2.4 As a minimum, Division 1 or Division 2 and Division 3 when the HPCS system is required to be OPERABLE, and Unit 2 Division 2 when the standby gas treatment system and/or the control room and auxiliary electric equipment room emergency filtration system are required to be OPERABLE, of the D.C. distribution system shall be OPERABLE ~~and energized~~ with: to support equipment required to be OPERABLE M.1 LA.1

a. Division 1, consisting of;

1. 125 volt battery 1A.
2. 125 volt full capacity charger.
3. ~~125 volt distribution panel 111Y.~~ LA.1

b. Division 2, consisting of;

1. 125 volt battery 1B.
2. 125 volt full capacity charger.
3. ~~125 volt distribution panel 112Y.~~ LA.1

c. Division 3, consisting of;

1. 125 volt battery 1C.
2. 125 volt full capacity charger.
3. ~~125 volt distribution panel 113.~~ LA.1

d. Unit 2 Division 2, consisting of;

1. 125 volt battery 2B.
2. 125 volt full capacity charger.
3. ~~125 volt distribution panel 212Y.~~ LA.1

(See ITS 3.8.5)

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *. M.1

ACTION:

Action A

one or more required

add proposed Required Action A.1

a. With ~~both~~ Division 1 ~~distribution panel 111Y~~ and Division 2 ~~distribution panel 112Y~~ of the above required D.C. distribution system inoperable ~~or not energized~~, suspend CORE ALTERATIONS, handling of irradiated fuel cask in the secondary containment and operations with a potential for draining the reactor vessel. M.2 add proposed Required Actions A.2.4 and A.2.5 LA.1

b. With Division 3 ~~distribution panel 113~~ of the above required D.C. distribution system inoperable ~~or not energized~~, declare the HPCS system inoperable ~~and take the ACTION required by Specifications 3.5.2 and 3.5.3.~~ A.2 M.3

add proposed Required Actions A.2.1, A.2.2, and A.2.3

add proposed Required Action A.2.4

M.2

APPLICABILITY *When handling irradiated fuel in the secondary containment.

A.1

ITS 3.8.8

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

c. With one division battery and/or battery charger inoperable, operation may continue provided the Unit tie breakers for the effected division are OPERABLE and aligned to supply power to the affected distribution panel from the associated OPERABLE Unit 2 125 volt DC distribution panel; restore the inoperable battery and/or charger to OPERABLE status within 72 hours or declare the division distribution panel inoperable. See ITS 3.8.5

Action A

d. With Unit 2 Division 2 of the above required D.C. distribution system inoperable ~~or/not energized~~, declare the standby gas treatment system subsystem B and the control room and auxiliary electric equipment room emergency filtration system train B inoperable ~~and take the ACTION required by Specifications 3.6.5.3 and 3.7.2~~. LA.1 A.2 A.3 add proposed Required Actions A.2.1, A.2.2, A.2.3, and A.2.4

Note to Actions

e. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

SR 3.8.8.1

4.8.2.4.1 At least the above required D.C. distribution system electrical division(s) shall be determined OPERABLE ~~and/energized~~ at least once per 7 days by verifying correct breaker alignment and voltage on the panel(s) ~~with an overall voltage of greater than or equal to 125 volts~~. LA.2 LA2

4.8.2.4.2 At least the above required battery and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2. See ITS 3.8.5

A.1

ELECTRICAL POWER SYSTEMS

A.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO 3.8.8 3.8.2.2 As a minimum, Division 1 or Division 2, and Division 3 when the HPCS system is required to be OPERABLE, and Unit 1 Division 2 when the standby gas treatment system and/or the control room and auxiliary electric equipment room emergency filtration system are required to be OPERABLE, of the A.C. distribution system shall be OPERABLE ~~and energized~~ with:

to support equipment required to be OPERABLE M.1

LA.1

LA.1

a. Division 1, consisting of:
   1. 4160-volt bus 241Y.
   2. 480-volt busses 235X and 235Y.
   3. 480-volt MCCs 235X-1, 235X-2, 235X-3, 235Y-1, and 235Y-2.
   4. 120-volt A.C. distribution panels in 480-volt MCCs 235X-1, 235X-2, 235X-3, and 235Y-1.
b. Division 2, consisting of:
   1. 4160-volt bus 242Y.
   2. 480-volt busses 236X and 236Y.
   3. 480-volt MCCs 236X-1, 236X-2, 236X-3, 236Y-1, and 236Y-2.
   4. 120-volt A.C. distribution panels in 480-volt MCCs 236X-1, 236X-2, 236X-3, and 236Y-2.
c. Division 3, consisting of:
   1. 4160-volt bus 243
   2. 480-volt MCC 243-1.
   3. 120-volt A.C. distribution panels in 480-volt MCC 243-1.
d. Unit 1 Division 2, consisting of:
   1. 4160-volt bus 142Y.
   2. 480-volt busses 136X and 136Y.
   3. 480-volt MCCs 136X-1, 136X-2, 136X-3, and 136Y-1.
   4. 120-volt A.C. distribution panels in 480-volt MCCs 136X-1, 136X-2, and 136X-3.

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

APPLICABILITY *When handling irradiated fuel in the secondary containment.

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

M.1

ACTION: one or more required

add proposed Required Action A.1

ACTION A

a. With ~~both~~ Division 1 and 2 of the above required A.C. distribution system inoperable ~~or not energized~~, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel. add proposed Required Actions A.2.4 and A.2.5 M.2

b. With Division 3 of the above required A.C. distribution system inoperable ~~or not energized~~, declare the HPCS system inoperable ~~and take the ACTION required by Specifications 3.5.2 and 3.5.3.~~ A.2 add proposed Required Actions A.2.1, A.2.2, and A.2.3

c. With Unit 1 Division 2 of the above required A.C. distribution system inoperable ~~or not energized~~, declare the standby gas treatment system subsystem A and control room and auxiliary electric equipment room emergency filtration system train A inoperable ~~and take the ACTION required by Specifications 3.6.5.3 and 3.7.2.~~ A.2 M.3 add proposed Required Action A.2.4

Note to ACTIONS

d. The provisions of Specification 3.0.3 are not applicable. M.2

add proposed Required Actions A.2.1, A.2.2., A.2.3, and A.2.4 M.2

SURVEILLANCE REQUIREMENTS

LA.1

SR 3.8.8.1 4.8.2.2 At least the above required A.C. distribution system electrical division(s) shall be determined OPERABLE ~~and energized~~ at least once per 7 days by verifying correct breaker alignment and voltage on the busses/panels. LA.2

A.1

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO 3.8.8 3.8.2.4 As a minimum, Division 1 or Division 2, and Division 3 when the HPCS system is required to be OPERABLE, and Unit 1 Division 2 when the standby gas treatment system and/or the control room and auxiliary electric equipment room emergency filtration system are required to be OPERABLE, of the D.C. distribution system shall be OPERABLE ~~and energized~~ with:

to support equipment required to be OPERABLE M.1 LA.1

a. Division 1, consisting of;
   1. 125-volt battery 2A.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 211Y.~~ LA.1

b. Division 2, consisting of;
   1. 125-volt battery 2B.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 212Y.~~ LA.1

c. Division 3, consisting of;
   1. 125-volt battery 2C.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 213.~~ LA.1

d. Unit 1 Division 2, consisting of;
   1. 125-volt battery 1B.
   2. 125-volt full capacity charger.
   3. ~~125-volt distribution panel 112Y.~~ LA.1

<See ITS 3.8.5>

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

ACTION: One or more required M.1

add proposed Required Action A.1

ACTION A

a. With both Division 1 ~~distribution panel 211Y~~ and Division 2 ~~distribution panel 212Y~~ of the above required D.C. distribution system inoperable ~~or not energized~~, suspend CORE ALTERATIONS, handling of irradiated fuel cask in the secondary containment and operations with a potential for draining the reactor vessel. ← add proposed Required Actions A.2.4 and A.2.5 LA.1 M.2

b. With Division 3 ~~distribution panel 213~~ of the above required D.C. distribution system inoperable ~~or not energized~~, declare the HPCS system inoperable ~~and take the ACTION required by Specifications 3.5.2 and 3.5.3.~~ A.2 LA.1

add proposed Required Actions A.2.1, A.2.2, and A.2.3 M3

add proposed Required Action A.2.4 M.2

Applicability *When handling irradiated fuel in the secondary containment.

ITS 3.8.8

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

See ITS 3.8.5

c. With one division battery and/or battery charger inoperable, operation may continue provided the Unit tie breakers for the affected division are OPERABLE and aligned to supply power to the affected distribution panel from the associated OPERABLE Unit 1 125-volt D.C. distribution panel; restore the inoperable battery and/or charger to OPERABLE status within 72 hours or declare the division distribution panel inoperable.

LA.1

A.3

add proposed Required Actions A.2.1, A.2.2, A.2.3 and A.2.4

ACTION A

d. With Unit 1 Division 2 of the above required D.C. distribution system inoperable ~~or not energized~~, declare the standby gas treatment system subsystem A and the control room and auxiliary electric equipment room emergency filtration system train A inoperable ~~and take the ACTION required by Specifications 3.6.5.3 and 3.7.2.~~ A.2

Note to ACTIONS

e. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

SR 3.8.8.1

4.8.2.4.1 At least the above required D.C. distribution system electrical division(s) shall be determined OPERABLE ~~and energized~~ at least once per 7 days by verifying correct breaker alignment and voltage on the panel(s) ~~with an overall voltage of greater than or equal to 125 volts.~~ LA.2

4.8.2.4.2 At least the above required battery and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

See ITS 3.8.5

ADMINISTRATIVE

A.1 In the conversion of the LaSalle 1 and 2 current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted that 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 BWR Standard Technical Specifications, NUREG-1434, Rev. 1 (i.e., the Improved Standard Technical Specifications (ISTS)).

A.2 CTS 3.8.2.2 Action b and CTS 3.8.2.4 Action b require the Actions required by Specifications 3.5.2 and 3.5.3 to be taken after the HPCS System is declared inoperable. CTS 3.8.2.2 Action c and CTS 3.8.2.4 Action d require the standby gas treatment subsystem and the control room and auxiliary electric equipment room emergency filtration subsystem to be declared inoperable and take the Action required by Specifications 3.6.5.3 and 3.7.2 in the event the opposite unit's Division 2 DC electrical power subsystem is inoperable. The format of the ITS does not include providing these types of "cross references." ITS 3.5.2, 3.6.4.3, 3.7.4, 3.7.5, and 3.5.3 adequately prescribe the Required Actions for an inoperable HPCS System, SGT subsystem, control room area filtration subsystem, or control room area ventilation air conditioning subsystem, respectively without such references. Therefore the existing references to Specifications 3.5.2 and 3.5.3 in CTS 3.8.2.2 Action b and CTS 3.8.2.4 Action b to "take the ACTION required by Specifications 3.5.2 and 3.5.3," and in CTS 3.8.2.4 Action d to "take the ACTION required by Specifications 3.6.5.3 and 3.7.2" serve no functional purpose, and their removal from the ITS is purely an administrative difference in presentation.

A.3 In lieu of declaring the standby gas treatment subsystem and control room and auxiliary electric equipment room emergency filtration subsystem inoperable and taking the ACTIONS of the appropriate LCO as required by CTS 3.8.2.2 Action c and CTS 3.8.2.4 Action d, three new Required Actions have been provided for when the opposite unit's Division 2 DC source is inoperable. ITS 3.8.5 Required Actions A.2.1, A.2.2, and A.2.3 require suspension of CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment, and OPDRVs. These Required Actions are the same as the Actions found in the individual System Specifications (CTS 3.6.5.3 and 3.7.2), therefore, the addition of these changes are considered administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The existing requirement of CTS 3.8.2.2 and 3.8.2.4 for distribution buses to be OPERABLE during shutdown conditions is not specific as to what the system must be powering. The current requirement only requires either Division 1 or Division 2 distribution subsystems to be OPERABLE, and if HPCS is required, the Division 3 distribution subsystems must also be OPERABLE. In addition, if opposite unit powered Division 2 equipment is required, the opposite unit Division 2 distribution subsystems must be OPERABLE. The requirement in ITS 3.8.8 specifies that the distribution systems necessary to supply AC and DC power to all equipment required to be OPERABLE in the current plant condition must be OPERABLE. This added restriction conservatively assures the needed sources of power are OPERABLE; even if this results in both the Division 1 and Division 2 distribution subsystems being required. In addition, CTS 3.8.2.2 Actions a and 3.8.2.4 Action a have been modified to be "one or more required" instead of the current "both," to account for this potential addition.

Since the ITS 3.8.8 distribution system OPERABILITY requirements require supplying power to all necessary loads, if one or more required loads are not being supplied the required power due to an inoperable bus, that distribution subsystem is inoperable. In this event it may not be necessary to suspend all CORE ALTERATIONS, irradiated fuel handling, and OPDRVs as required by CTS 3.8.2.2 Action a and CTS 3.8.2.4 Action a. Conservative actions can be assured if all required equipment without the necessary power is declared inoperable and the associated ACTIONS of the individual equipment taken (ITS 3.8.8 Required Action A.1). Therefore, along with the conservative additional requirements placed on the Division 1 and Division 2 distribution subsystems, Required Action A.1, which requires the associated supported equipment to be declared inoperable, is also added. Currently, this action only applies to the Division 3 equipment and the opposite unit Division 2 equipment. These additions represent restrictions consistent with implicit assumptions for operation in shutdown conditions (required equipment receiving the necessary required power); restrictions which are not currently imposed via the Technical Specification.

M.2 In the event the necessary Division 1 or 2 electrical power distribution subsystems are not OPERABLE, plant conditions are conservatively restricted by suspending CORE ALTERATIONS, irradiated fuel handling, and OPDRVs as required by CTS 3.8.2.2 Action a and 3.8.2.4 Action a (ITS 3.8.8 Required Actions A.2.1, A.2.2, and A.2.3). In the event the necessary Division 3 electrical power distribution subsystems are not OPERABLE, plant conditions are conservatively restricted by suspending OPDRVs as required by CTS 3.8.2.2

TECHNICAL CHANGES - MORE RESTRICTIVE

M.2 (cont'd) Action b and CTS 3.8.2.4 Action b (which references the Actions of CTS 3.5.2). However, continued operation without the necessary electrical power distribution subsystems should not be considered acceptable. Therefore, ITS 3.8.8 Required Action A.2.4 is added to commence and continue attempts to restore the necessary electrical power distribution subsystems. (Note that if actions are taken in accordance with the ITS 3.8.8 Required Action A.1, sufficiently conservative measures are assured by the ACTIONS for the individual components declared inoperable without requiring the efforts to restore the inoperable source.) ITS 3.8.8 Required Action A.2.4 results in an action which does not allow continued operation in the existing plant condition. This has the effect of not allowing MODE changes per LCO 3.0.4. Therefore, this existing implicit requirement is explicitly addressed in the ITS 3.8.8 ACTIONS.

An additional Required Action (ITS 3.8.8 Required Action A.2.5) related to proposed LCO 3.0.6 is also proposed. Proposed LCO 3.0.6 allows the ITS 3.8.8 ACTIONS for inoperable electrical power distribution subsystems to be taken, and thereby not take ACTIONS for each inoperable supported component. ITS 3.8.8 Required Action A.2.5 assures the appropriate consideration is applied for shutdown cooling systems that are without required power, since additional actions not provided in the ITS 3.8.8 ACTIONS are required when shutdown cooling is inoperable.

M.3 In lieu of declaring the HPCS System inoperable and taking the ACTIONS of the appropriate LCO as required by CTS 3.8.2.2 Action b and CTS 3.8.2.4 Action b, new Required Actions have been provided for when the Division 3 AC or DC distribution subsystem is inoperable, consistent with the current actions for inoperable Division 1 and Division 2 AC and DC distribution subsystems (CTS 3.8.2.2 Action a and CTS 3.8.2.4 Action a). ITS 3.8.8 Required Actions A.2.1, A.2.2, and A.2.3 require suspension of CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment, and OPDRVs. These Required Actions are more restrictive than currently required, since CTS 3.5.2 Action a only requires OPDRVs to be suspended (and it allows 4 hours to start this action), and ensure proper actions are taken to compensate for an inoperable HPCS System.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The details of CTS 3.8.2.2 (including Actions a, b, and c), CTS 3.8.4.2 (including Actions a, b, and d), 4.8.2.2, and 4.8.2.4.1, relating to system design and OPERABILITY are proposed to be relocated to the Bases. The details for system OPERABILITY are not necessary in the LCO. The definition of OPERABILITY suffices. The design details are not necessary to be included in the Technical Specifications to ensure the OPERABILITY of the Distribution Systems since OPERABILITY requirements are adequately addressed in ITS 3.8.8, "Distribution Systems—Shutdown." Therefore, the relocated details are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.2 The CTS 4.8.2.4.1 detail (voltage limit) for verifying the required DC Distribution subsystems are OPERABLE is proposed to be relocated to the UFSAR. This detail is not necessary to ensure the OPERABILITY of the DC Distribution Systems. The requirements of Specification 3.8.8 and SR 3.8.8.1 are adequate to ensure the required Distribution Systems are maintained OPERABLE. Therefore, the relocated detail is not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the UFSAR are controlled by 10 CFR 50.59. In addition, any changes to the loads placed on the DC subsystems will be controlled by 10 CFR 50.59 (a design change is required to change the actual loads).

"Specific"

None

RELOCATED SPECIFICATIONS

None

ELECTRICAL POWER SYSTEMS

3/4.8.3 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

A.C. CIRCUITS INSIDE PRIMARY CONTAINMENT

LIMITING CONDITION FOR OPERATION

3.8.3.1 At least the following A.C. circuits inside primary containment shall be de-energized*:

a. Installed welding grid systems 1A and 1B, and

b. All drywell lighting circuits.

c. All drywell hoists and cranes circuits.

R.1

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

With any of the above required circuits energized, trip the associated circuit breaker(s) in the specified panel(s) within 1 hour.

SURVEILLANCE REQUIREMENTS

4.8.3.1 Each of the above required A.C. circuits shall be determined to be de-energized at least once per 24 hours** by verifying that the associated circuit breakers are in the tripped condition.

*Except during entry into the drywell.

**Except at least once per 31 days if locked, sealed or otherwise secured in the tripped condition.

ELECTRICAL POWER SYSTEMS

3/4.8.3 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

A.C. CIRCUITS INSIDE PRIMARY CONTAINMENT

LIMITING CONDITION FOR OPERATION

3.8.3.1 At least the following A.C. circuits inside primary containment shall be deenergized*: R.1

a. Installed welding grid systems 2A and 2B, and

b. All drywell lighting circuits.

c. All drywell hoists and cranes circuits.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

With any of the above required circuits energized, trip the associated circuit breaker(s) in the specified panel(s) within 1 hour.

SURVEILLANCE REQUIREMENTS

4.8.3.1 Each of the above required A.C. circuits shall be determined to be de-energized at least once per 24 hours** by verifying that the associated circuit breakers are in the tripped condition.

*Except during entry into the drywell.

**Except at least once per 31 days if locked, sealed, or otherwise secured in the tripped condition.

ADMINISTRATIVE

None

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE

None

RELOCATED SPECIFICATIONS

R.1 The CTS 3/4.8.3.1 AC circuits inside primary containment are kept normally de-energized and do not participate in plant safety actions. These circuits are primarily for lighting, utility outlets and convenience power to be used for plant walkdowns, maintenance, and in-situ test and/or observations. These circuits have no impact on plant safety systems. Furthermore, the evaluation summarized in NEDO-31466 determined the loss of this protection to be a non-significant risk contributor to core damage frequency and offsite release. Therefore, the requirements specified in CTS 3/4.8.3.1 do not satisfy the NRC Policy Statement technical specification screening criteria as documented in the Application of Selection Criteria to the LaSalle 1 and 2 Technical Specifications. These requirements have been relocated to the Technical Requirements Manual (TRM). The TRM will be incorporated by reference into the LaSalle 1 and 2 UFSAR at ITS implementation. Changes to the TRM will be controlled in accordance with 10 CFR 50.59.

ELECTRICAL POWER SYSTEMS

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.3.2 Primary and backup primary containment penetration conductor overcurrent protective devices associated with each primary containment medium and high voltage (6.9 kV, 4.16 kV and 480 volt) electrical penetration circuit shall be OPERABLE. The scope of these protective devices excludes those circuits for which credible fault currents would not exceed the electrical penetration design rating.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

With one or more of the primary containment penetration conductor overcurrent protective devices inoperable, restore the protective device(s) to OPERABLE status or de-energize the circuit(s) by tripping the associated circuit breaker or racking out or removing the inoperable circuit breaker within 72 hours, declare the affected system or component inoperable, and verify the circuit breaker to be tripped or the inoperable circuit breaker racked out, or removed, at least once per 7 days thereafter. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. R.1

SURVEILLANCE REQUIREMENTS

4.8.3.2 Each of the primary containment penetration conductor overcurrent protective devices shall be demonstrated OPERABLE:

a. At least once per 18 months:

1. By verifying that the 6.9 kV and 4.16 kV circuit breakers are OPERABLE by selecting, on a rotating basis, at least 10% of the circuit breakers and performing:

a) A CHANNEL CALIBRATION of the associated protective relays, and

b) An integrated system functional test of the breakers overcurrent protective trip circuit which includes simulated automatic actuation of the trip system to demonstrate that the overall penetration protection design remains within operable limits.

c) For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

SURVEILLANCE REQUIREMENTS (Continued)

2. By selecting and functionally testing a representative sample of at least 10% of each type of 480-volt circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. Testing of these circuit breakers shall consist of injecting a current in excess of 120% of the breakers nominal setpoint and measuring the response time. The measured response time will be compared to the manufacturer's data to insure that it is less than or equal to 120% of a value specified for test current by the manufacturer. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

R.1

CTS 3/4.8.3.2

R.1

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.3.2 Primary and backup primary containment penetration conductor overcurrent protective devices associated with each primary containment medium and high voltage (6.9 kV, 4.16 kV and 480 volt) electrical penetration circuit shall be OPERABLE. The scope of these protective devices excludes those circuits for which credible fault currents would not exceed the electrical penetration design rating.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

With one or more of the primary containment penetration conductor overcurrent protective devices inoperable, restore the protective device(s) to OPERABLE status or de-energize the circuit(s) by tripping the associated circuit breaker or racking out or removing the inoperable circuit breaker within 72 hours, declare the affected system or component inoperable, and verify the circuit breaker to be tripped or the inoperable circuit breaker racked out, or removed, at least once per 7 days thereafter. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.8.3.2 Each of the primary containment penetration conductor overcurrent protective devices shall be demonstrated OPERABLE:

a. At least once per 18 months:

1. By verifying that the 6.9 kV and 4.16 kV circuit breakers are OPERABLE by selecting, on a rotating basis, at least 10% of the circuit breakers and performing:

a) A CHANNEL CALIBRATION of the associated protective relays, and

b) An integrated system functional test of the breakers overcurrent protective trip circuit which includes simulated automatic actuation of the trip system to demonstrate that the overall penetration protection design remains within operable limits.

c) For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

~~a. By selecting and functionally testing a representative sample of at least 10% of each type of 480-volt circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. Testing of these circuit breakers shall consist of injecting a current in excess of 120% of the breakers nominal setpoint and measuring the response time. The measured response time will be compared to the manufacturer's data to insure that it is less than or equal to 120% of a value specified for test current by the manufacturer. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.~~

~~b. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.~~

R.1

DISCUSSION OF CHANGES
CTS: 3/4.8.3.2 - PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

ADMINISTRATIVE

None

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE

None

RELOCATED SPECIFICATIONS

R.1 The CTS 3/4.8.3.2 primary containment penetration conductor overcurrent protective devices provide protection for the circuit conductors against damage or failure due to overcurrent heating effects; however, they are not considered to function in any design basis accident or transient. Furthermore, the evaluation summarized in NEDO-31466 determined the loss of the these protective devices to be a non-significant risk contributor to core damage frequency and offsite release. Therefore, the requirements specified in CTS 3/4.8.3.2 do not satisfy the NRC Policy Statement technical specification screening criteria as documented in the Application of Selection Criteria to the LaSalle 1 and 2 Technical Specifications. These requirements have been relocated to the Technical Requirements Manual (TRM). The TRM will be incorporated by reference into the LaSalle 1 and 2 UFSAR at ITS implementation. Changes to the TRM will be controlled in accordance with 10 CFR 50.59.

CTS 3/4.8.3.3

~~MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION~~

~~LIMITING CONDITION FOR OPERATION~~

~~3.8.3.3 The thermal overload protection of each valve shown in Table 3.8.3.3-1 shall be bypassed continuously or under accident conditions, as applicable, by an OPERABLE bypass device integral with the motor starter.~~

~~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 not bypassed continuously or under accident conditions, as applicable, by an OPERABLE integral bypass device, take administrative action to continuously bypass the 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~~

~~4.8.3.3.1 The thermal overload protection for the above required valves shall be verified to be bypassed continuously or under accident conditions, as applicable, by an OPERABLE integral bypass device by the performance of a CHANNEL FUNCTIONAL TEST of the bypass circuitry for those thermal overloads which are normally in force during plant operation and bypassed under accident conditions and by verifying that the thermal overload protection is bypassed for those thermal overloads which are continuously bypassed and temporarily placed in force only when the valve motors are undergoing periodic or maintenance testing:~~ L4.1

~~a. At least once per 18 months, and~~

~~b. Following maintenance on the motor starter.~~

~~4.8.3.3.2 The thermal overload protection for the above required valves which are continuously bypassed shall be verified to be bypassed following testing during which the thermal overload protection was temporarily placed in force.~~

Page 1 of 9

TABLE 3.8.3.3-1

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

	VALVE NUMBER	BYPASS DEVICE (Continuous)(Accident Conditions)	SYSTEM(S) AFFECTED
a.	1VG001	Accident Conditions	SBGTS
	1VG003	Accident Conditions	
	2VG001	Accident Conditions	
	2VG003	Accident Conditions	
b.	1VP113A	Accident Conditions	Primary containment chilled water coolers
	1VP113B	Accident Conditions	
	1VP114A	Accident Conditions	
	1VP114B	Accident Conditions	
	1VP053A	Accident Conditions	
	1VP053B	Accident Conditions	
	1VP063A	Accident Conditions	
	1VP063B	Accident Conditions	
c.	1VQ038	Accident Conditions	Primary containment vent and purge system
	1VQ032	Accident Conditions	
	1VQ035	Accident Conditions	
	1VQ047	Accident Conditions	
	1VQ048	Accident Conditions	
	1VQ050	Accident Conditions	
	1VQ051	Accident Conditions	
	1VQ068	Accident Conditions	
	1VQ037	Accident Conditions	
d.	1WR179	Accident Conditions	RBCCW system
	1WR180	Accident Conditions	
	1WR040	Accident Conditions	
	1WR029	Accident Conditions	
e.	1B21 - F067A	Accident Conditions	Main steam system
	1B21 - F067B	Accident Conditions	
	1B21 - F067C	Accident Conditions	
	1B21 - F067D	Accident Conditions	
	1B21 - F019	Accident Conditions	
	1B21 - F016	Accident Conditions	

LA.1

TABLE 3.8.3.3-1 (Continued)
MOTOR OPERATED VALVES THERMAL OVERLOAD
PROTECTION AND/OR BYPASS DEVICES

	VALVE NUMBER	BYPASS DEVICE (Continuous)/(Accident Conditions)	SYSTEM(S) AFFECTED
e.	1B21 - F020	Continuous	Main steam system
	1B21 - F068	Continuous	
	1B21 - F070	Continuous	
	1B21 - F069	Continuous	
	1B21 - F071	Continuous	
	1B21 - F072	Continuous	
	1B21 - F073	Continuous	
f.	1B21 - F065A	Continuous	Main feedwater system
	1B21 - F065B	Continuous	
g.	1E21 - F001	Continuous	LPCS system
	1E21 - F005	Accident Conditions	
	1E21 - F011	Accident Conditions	
	1E21 - F012	Accident Conditions	
h.	1C41 - F001A	Accident Conditions	SBLCS
	1C41 - F001B	Accident Conditions	
i.	1G33 - F001	Accident Conditions	RWCU
	1G33 - F004	Accident Conditions	
j.	1E12 - F052A	Accident Conditions	RHR system
	1E12 - F064A	Accident Conditions	
	1E12 - F087A	Accident Conditions	
	1E12 - F004A	Continuous	
	1E12 - F047A	Continuous	
	1E12 - F048A	Accident Conditions	
	1E12 - F003A	Continuous	
	1E12 - F026A	Accident Conditions	
	1E12 - F068A	Continuous	
	1E12 - F073A	Continuous	
	1E12 - F074A	Continuous	
	1E12 - F011A	Accident Conditions	
	1E12 - F024A	Accident Conditions	
	1E12 - F016A	Accident Conditions	
	1E12 - F017A	Accident Conditions	
	1E12 - F027A	Accident Conditions	
	1E12 - F004B	Continuous	
	1E12 - F047B	Continuous	
	1E12 - F048B	Accident Conditions	
	1E12 - F003B	Continuous	
	1E12 - F068B	Continuous	
	1E12 - F073B	Continuous	
	1E12 - F074B	Continuous	
	1E12 - F026B	Accident Conditions	
	1E12 - F011B	Accident Conditions	

LA.1

TABLE 3/8.3.3-1 (Continued)
MOTOR OPERATED VALVES THERMAL OVERLOAD
PROTECTION AND/OR BYPASS DEVICES

	VALVE NUMBER	BYPASS DEVICE (Continuous)(Accident Conditions)	SYSTEM(S) AFFECTED
j.	1E12 - F024B	Accident Conditions	RHR system
	1E12 - F006B	Continuous	
	1E12 - F016B	Accident Conditions	
	1E12 - F017B	Accident Conditions	
	1E12 - F042B	Accident Conditions	
	1E12 - F064B	Accident Conditions	
	1E12 - F093	Continuous	
	1E12 - F021	Accident Conditions	
	1E12 - F004C	Continuous	
	1E12 - F052B	Accident Conditions	
	1E12 - F087B	Accident Conditions	
	1E12 - F099B	Accident Conditions	
	1E12 - F099A	Accident Conditions	
	1E12 - F008	Accident Conditions	
	1E12 - F009	Accident Conditions	
	1E12 - F040A	Accident Conditions	
	1E12 - F040B	Accident Conditions	
	1E12 - F049A	Accident Conditions	
	1E12 - F049B	Accident Conditions	
	1E12 - F053A	Accident Conditions	
	1E12 - F053B	Accident Conditions	
	1E12 - F006A	Continuous	
	1E12 - F023	Accident Conditions	
	1E12 - F027B	Accident Conditions	
	1E12 - F042A	Accident Conditions	
	1E12 - F042C	Accident Conditions	
	1E12 - F064C	Accident Conditions	
	1E12 - F094	Continuous	
k.	1E51 - F086	Accident Conditions	RCIC system
	1E51 - F022	Accident Conditions	
	1E51 - F068	Continuous	
	1E51 - F069	Continuous	
	1E51 - F080	Accident Conditions	
	1E51 - F046	Accident Conditions	
	1E51 - F059	Accident Conditions	
	1E51 - F063	Accident Conditions	
	1E51 - F019	Accident Conditions	
	1E51 - F031	Continuous	
	1E51 - F045	Accident Conditions	
	1E51 - F008	Accident Conditions	
	1E51 - F010	Accident Conditions	
	1E51 - F013	Accident Conditions	
	1E51 - F064	Accident Conditions	
	1E51 - F076	Accident Conditions	

LA.1

TABLE 3.8.3.3-1 (Continued)
MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

VALVE NUMBER		BYPASS DEVICE (Continuous)(Accident Conditions)	SYSTEM(S) AFFECTED
l.	DELETED		
m.	1E22 - F004	Accident Conditions	HPCS system
	1E22 - F012	Accident Conditions	
	1E22 - F015	Continuous	
	1E22 - F023	Accident Conditions	

LA.1

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

LIMITING CONDITION FOR OPERATION

3.8.3.3 The thermal overload protection of each valve shown in Table 3.8.3.3-1 shall be bypassed continuously or under accident conditions, as applicable, by an OPERABLE bypass device integral with the motor starter.

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 not bypassed continuously or under accident conditions, as applicable, by an OPERABLE integral bypass device, take administrative action to continuously bypass the 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

4.8.3.3.1 The thermal overload protection for the above required valves shall be verified to be bypassed continuously or under accident conditions, as applicable, by an OPERABLE integral bypass device by the performance of a CHANNEL FUNCTIONAL TEST of the bypass circuitry for those thermal overloads which are normally in force during plant operation and bypassed under accident conditions and by verifying that the thermal overload protection is bypassed for those thermal overloads which are continuously bypassed and temporarily placed in force only when the valve motors are undergoing periodic or maintenance testing: LA.1

a. At least once per 18 months, and

b. Following maintenance on the motor starter.

4.8.3.3.2 The thermal overload protection for the above required valves which are continuously bypassed shall be verified to be bypassed following testing during which the thermal overload protection was temporarily placed in force.

TABLE 3.8.3.3-1

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

	VALVE NUMBER	BYPASS DEVICE (Continuous)(Accident Conditions)	SYSTEM(S) AFFECTED
a.	1VG001	Accident Conditions	SBGTS
	1VG003	Accident Conditions	
	2VG001	Accident Conditions	
	2VG003	Accident Conditions	
b.	2VP113A	Accident Conditions	Primary containment chilled water coolers
	2VP113B	Accident Conditions	
	2VP114A	Accident Conditions	
	2VP114B	Accident Conditions	
	2VP053A	Accident Conditions	
	2VP053B	Accident Conditions	
	2VP063A	Accident Conditions	
	2VP063B	Accident Conditions	
c.	2VQ038	Accident Conditions	Primary containment vent and purge system
	2VQ032	Accident Conditions	
	2VQ035	Accident Conditions	
	2VQ047	Accident Conditions	
	2VQ048	Accident Conditions	
	2VQ050	Accident Conditions	
	2VQ051	Accident Conditions	
	2VQ068	Accident Conditions	
	2VQ037	Accident Conditions	
d.	2WR179	Accident Conditions	RBCCW system
	2WR180	Accident Conditions	
	2WR040	Accident Conditions	
	2WR029	Accident Conditions	
e.	2B21 - F067A	Accident Conditions	Main steam system
	2B21 - F067B	Accident Conditions	
	2B21 - F067C	Accident Conditions	
	2B21 - F067D	Accident Conditions	
	2B21 - F019	Accident Conditions	
	2B21 - F016	Accident Conditions	
	2B21 - F020	Continuous	
	2B21 - F068	Continuous	
	2B21 - F070	Continuous	
	2B21 - F069	Continuous	
	2B21 - F071	Continuous	
	2B21 - F072	Continuous	
	2B21 - F073	Continuous	
f.	2B21 - F065A	Continuous	Main feedwater system
	2B21 - F065B	Continuous	

LA.1

TABLE 3.8.3.3-1 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

	VALVE NUMBER	BYPASS DEVICE (Continuous)(Accident Conditions)	SYSTEM(S) AFFECTED
g.	2E21 - F001	Continuous	LPCS system
	2E21 - F005	Accident Conditions	
	2E21 - F011	Accident Conditions	
	2E21 - F012	Accident Conditions	
h.	2C41 - F001A	Accident Conditions	SBLCS
	2C41 - F001B	Accident Conditions	
i.	2G33 - F001	Accident Conditions	RWCU
	2G33 - F004	Accident Conditions	
j.	2E12 - F052A	Accident Conditions	RHR system
	2E12 - F064A	Accident Conditions	
	2E12 - F087A	Accident Conditions	
	2E12 - F004A	Continuous	
	2E12 - F047A	Continuous	
	2E12 - F048A	Accident Conditions	
	2E12 - F003A	Continuous	
	2E12 - F026A	Accident Conditions	
	2E12 - F068A	Continuous	
	2E12 - F073A	Continuous	
	2E12 - F074A	Continuous	
	2E12 - F011A	Accident Conditions	
	2E12 - F024A	Accident Conditions	
	2E12 - F016A	Accident Conditions	
	2E12 - F017A	Accident Conditions	
	2E12 - F027A	Accident Conditions	
	2E12 - F004B	Continuous	
	2E12 - F047B	Continuous	
	2E12 - F048B	Accident Conditions	
	2E12 - F003B	Continuous	
	2E12 - F068B	Continuous	
	2E12 - F073B	Continuous	
	2E12 - F074B	Continuous	
	2E12 - F026B	Accident Conditions	
	2E12 - F011B	Accident Conditions	
j.	2E12 - F024B	Accident Conditions	RHR system
	2E12 - F006B	Continuous	
	2E12 - F016B	Accident Conditions	
	2E12 - F017B	Accident Conditions	
	2E12 - F042B	Accident Conditions	
	2E12 - F064B	Accident Conditions	
	2E12 - F093	Continuous	
	2E12 - F021	Accident Conditions	
	2E12 - F004C	Continuous	
	2E12 - F052B	Accident Conditions	
	2E12 - F087B	Accident Conditions	

LA.1

TABLE 3.8.3.3-1 (Continued)

MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

VALVE NUMBER	BYPASS DEVICE (Continuous)(Accident Conditions)	SYSTEM(S) AFFECTED
2E12 - F099B	Accident Conditions	
2E12 - F099A	Accident Conditions	
2E12 - F008	Accident Conditions	
2E12 - F009	Accident Conditions	
2E12 - F040A	Accident Conditions	
2E12 - F040B	Accident Conditions	
2E12 - F049A	Accident Conditions	
2E12 - F049B	Accident Conditions	
2E12 - F053A	Accident Conditions	
2E12 - F053B	Accident Conditions	
2E12 - F006A	Continuous	
2E12 - F023	Accident Conditions	
2E12 - F027B	Accident Conditions	
2E12 - F042A	Accident Conditions	
2E12 - F042C	Accident Conditions	
2E12 - F064C	Accident Conditions	
2E12 - F094	Continuous	
k. 2E51 - F086	Accident Conditions	RCIC system
2E51 - F022	Accident Conditions	
2E51 - F068	Continuous	
2E51 - F069	Continuous	
2E51 - F080	Accident Conditions	
2E51 - F046	Accident Conditions	
2E51 - F059	Accident Conditions	
2E51 - F063	Accident Conditions	
2E51 - F019	Accident Conditions	
2E51 - F031	Continuous	
2E51 - F045	Accident Conditions	
2E51 - F008	Accident Conditions	
2E51 - F010	Accident Conditions	
2E51 - F013	Accident Conditions	
2E51 - F064	Accident Conditions	
2E51 - F076	Accident Conditions	
l. DELETED		
m. 2E22 - F004	Accident Conditions	HPCS system
2E22 - F012	Accident Conditions	
2E22 - F015	Continuous	
2E22 - F023	Accident Conditions	

LA.1

ADMINISTRATIVE

None

TECHNICAL CHANGES - MORE RESTRICTIVE

None

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The requirements of CTS 3/4.8.3.3 for bypass devices that are associated with thermal overload protection of the valves listed in CTS Table 3.8.3.3-1 are included in the OPERABILITY requirements for the associated valves. These details of valve OPERABILITY are to be relocated to the Technical Requirements Manual (TRM). These details are not necessary to ensure the associated valves are OPERABLE. The definition of OPERABILITY suffices. The requirements of the ITS for the systems associated with these valves are adequate for ensuring these valves can perform their intended safety function. As such, these details are not required to be in the Technical Specifications to provide adequate protection of the public health and safety. The TRM will be incorporated by reference into the UFSAR at ITS implementation. Changes to the TRM will be controlled using the provisions of 10 CFR 50.59.

"Specific"

None

RELOCATED SPECIFICATIONS

None

DISCUSSION OF CHANGES
ITS: SECTION 3.8 - ELECTRICAL POWER SYSTEMS BASES

The Bases of the current Technical Specifications for this section (pages B 3/4 8-1 through B 3/4 8-3) have been completely replaced by revised Bases that reflect the format and applicable content of LaSalle 1 and 2 ITS Section 3.8, consistent with the BWR Standard Technical Specifications, NUREG-1434, Rev. 1. The revised Bases are as shown in the LaSalle 1 and 2 ITS Bases. In addition, pages 3/4 8-17, 3/4 8-24, 3/4 8-25, and 3/4 8-30 (Unit 2 only), which are blank pages, have been removed.

⟨CTS⟩

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources—Operating

⟨LCO 3.8.1.1⟩ ⟨LCO 3.8.1.1.a⟩ ⟨LCO 3.8.1.1.b⟩ ⟨LCO 3.8.2.1.d⟩

LCO 3.8.1 The following AC electrical power sources shall be OPERABLE:

a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electric Power Distribution System;

b. Three unit diesel generators (DGs) ~~[~~; and 2

~~c. Three automatic sequencers]~~. 2

insert LCO 3

⟨Appl 3.8.1.1⟩ APPLICABILITY: MODES 1, 2, and 3.

⟨DOC A.4⟩ ⟨DOC L.19⟩ ⟨3.8.1.1 Act d⟩

3 1. 4 5 3

-----------------------------NOTE-----------------------------
~~[~~Division 3~~]~~ AC electrical power sources are not required to be OPERABLE when High Pressure Core Spray (HPCS) System ~~[2C Standby Service Water System]~~ is inoperable. 2 2 1

insert Applicability 3

ACTIONS

⟨3.8.1.1 Act a⟩ ⟨3.8.1.1 Act c⟩ ⟨3.8.1.1 Act e⟩ ⟨3.8.1.1 Act j⟩ ⟨3.0.5⟩ ⟨3.8.1.2 Act c⟩

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ~~[required]~~ 4 offsite circuit inoperable.	A.1 Perform SR 3.8.1.1 for OPERABLE 4 ~~[required]~~ offsite circuit. AND	1 hour AND Once per 8 hours thereafter (continued)

<CTS>

Insert LCO

<LCO 3.8.1.1.b>

c. The opposite unit's Division 2 DG capable of supporting the associated equipment required to be OPERABLE by LCO 3.6.3.1, "Primary Containment Hydrogen Recombiners," LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Area Filtration (CRAF) System," and LCO 3.7.5, "Control Room Area Ventilation Air Conditioning (AC) System."

Insert Applicability

2. The opposite unit's Division 2 DG in LCO 3.8.1.c is not required to be OPERABLE when the associated required equipment is inoperable.

<DOC A.11>

<3.8.1.1 Act g>

<CTS>

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
<3.8.1.1 Act a> <3.8.1.1 Act c> <3.8.1.1 Act e> <3.8.1.1 Act j> <3.0.5> <3.8.1.2 Act c> A. (continued)	A.2	Declare required feature(s) with no offsite power available inoperable when the redundant required feature(s) are inoperable.	24 hours from discovery of no offsite power to one division concurrent with inoperability of redundant required feature(s)
	AND		
	A.3	Restore ~~[required]~~ 4 offsite circuit to OPERABLE status.	7 days 20 ~~72 hours~~ AND ~~24 hours from discovery of two divisions with no offsite power~~ 18 ~~AND~~ 10 5 ~~6~~ days from discovery of failure to meet LCO 3.8.1.a or b 3

(continued)

insert ACTION B 5

<CTS>

Insert ACTION B

<3.8.1.1 Act b footnote #> <3.8.1.1 Act f> <3.0.5>	B. -------NOTE------- Not applicable when the opposite unit is in MODE 1, 2, or 3. ------------------ Division 1 DG inoperable for the purposes of completing preplanned maintenance, modifications, or Surveillance Requirements on the Division 1 DG or its associated support systems.	B.1 Verify the unit crosstie breakers between the unit and opposite unit Division 2 emergency buses are capable of being closed with a DG powering one of the buses.	Immediately
		AND	
		B.2 Perform SR 3.8.1.1 for OPERABLE required offsite circuit(s).	1 hour AND Once per 24 hours thereafter
		AND	
		B.3 Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable.	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
		AND	
		B.4 Restore inoperable DG to OPERABLE status.	7 days AND 10 days from discovery of failure to meet LCO 3.8.1.a or b

(continued)

<CTS>

Required Action B.1 and Associated Completion Time not met
OR

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One [required] unit DG inoperable for reasons other than Condition B. OR Required opposite unit Division 2 DG inoperable. OR One required unit DG inoperable and the required opposite unit Division 2 DG inoperable.	B.1 Perform SR 3.8.1.1 for OPERABLE [required] offsite circuit(s). AND	1 hour AND Once per 8 hours thereafter
	B.2 Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable. AND	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	B.3.1 Determine OPERABLE DG(s) are not inoperable due to common cause failure. OR	[24] hours
	B.3.2 Perform SR 3.8.1.2 for OPERABLE DG(s). AND	[24] hours
	B.4 Restore required DG to OPERABLE status.	72 hours AND 6 10 days from discovery of failure to meet LCO 3.8.1.a or b

<3.8.1.1 Act b>
<3.8.1.1 Act c>
<3.8.1.1 Act d>
<3.8.1.1 Act f>
<3.8.1.1 Act g>
<3.8.1.1 Act j>
<3.8.1.1 Act k>
<3.8.1.1 Act l>
<3.0.5>

(continued)

<CTS>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
5 D ~~C~~. Two {required} 4 offsite circuits inoperable. <3.8.1.1 Act e> <3.0.5>	~~C~~.1 D 5 Declare required feature(s) inoperable when the redundant required feature(s) are inoperable.	12 hours from discovery of Condition ~~C~~ D 5 concurrent with inoperability of redundant required feature(s)
	AND	
	5 D ~~C~~.2 Restore one 4 {required} offsite circuit to OPERABLE status.	24 hours
5 E ~~D~~. One 4 {required} offsite circuit inoperable. <DOC A.7> <3.8.1.1 Act c 3.8.1.1 Act h> AND 4 One {required} 1 unit DG inoperable. 4	------------NOTE------------ Enter applicable Conditions and Required Actions of LCO 3.8 ~~8~~ 7 7, "Distribution Systems—Operating," when Condition ~~D~~ E 5 is entered with no AC power source to any required 9 {division}. ----------------------------	
	~~D~~.1 E 5 Restore {required} 4 offsite circuit to OPERABLE status.	12 hours
	OR	
	~~D~~.2 E 5 Restore 4 {required} 1 unit DG to OPERABLE status.	12 hours

(continued)

<CTS>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
5 F ~~E~~. Two 4 ~~{required}~~ unit 1 DGs inoperable. OR Unit Division 2 DG and the required opposite unit Division 2 DG inoperable. 6 <3.8.1.1 Act f> <3.8.1.1 Act i> <DOC L.5>	F 5 ~~E~~.1 Restore one 4 ~~{required}~~ DG to OPERABLE status.	2 hours OR 72 ~~24~~ hours if unit 8 Division 3 DG is inoperable
2 ~~F. One [required] [automatic load sequencer] inoperable.~~	~~--------REVIEWER'S NOTE--------~~ ~~This Condition may be deleted if the unit design is such that any sequencer failure mode will only affect the ability of the associated DG to power its respective safety loads following a loss of offsite power independent of, or coincident with, a Design Basis Event.~~ ~~-----------------------------~~ ~~F.1 Restore [required] [automatic load sequencer] to OPERABLE status.~~	~~[12] hours~~
G. 15 Required Action and Associated Completion Time of Condition A, 5 B, C, D, ~~or~~ 2 E~~}~~, 4 ~~{~~or F~~}~~ not met. <3.8.1.1 Act a> <3.8.1.1 Act b> <3.8.1.1 Act c> <3.8.1.1 Act e> <3.8.1.1 Act f> <3.8.1.2 Act c> OR Required Action and associated Completion Time of Required Action B.2, B.3, or B.4 not met. 5	G.1 Be in MODE 3. AND G.2 Be in MODE 4.	12 hours 36 hours
H. Three or more 4 ~~{required}~~ AC sources inoperable. <DOC A.10>	H.1 Enter LCO 3.0.3.	Immediately

CTS

Insert SR Notes 3

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY
<4.8.1.1.a>	SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each 4 [required] offsite circuit.	7 days
<4.8.1.1.2.a.4> TSTF-253 <4.8.1.1.2 fnote *>	SR 3.8.1.2	-------------------NOTES------------------- 1. ~~Performance of SR 3.8.1.7 satisfies this SR.~~ ① ~~2.~~ All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. ② ~~3.~~ A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. When modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.7 must be met. 4 -- Verify each required 9 DG starts from standby conditions and achieves steady state voltage ≥ 4010 ~~[3744]~~ V and ≤ 4310 4 ~~[4576]~~ V and frequency ≥ [58.8] Hz and ≤ [61.2] Hz. 4	31 days 10 ~~As specified in Table 3.8.1-1~~

(continued)

3. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. 11

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Insert SR Notes

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1. SR 3.8.1.1 through SR 3.8.1.20 are applicable only to the given unit's AC electrical power sources.

2. SR 3.8.1.21 is applicable to the required opposite unit's DG.

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
<4.8.1.1.2.a.5> SR 3.8.1.3	-----NOTES----- 1. DG loadings may include gradual loading as recommended by the manufacturer. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by, and immediately follow, without shutdown, a successful performance of SR 3.8.1.2 or SR 3.8.1.7. 11 5. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. ----- Verify each required 9 DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ ~~[5450]~~ 2400 kW and ≤ ~~[5740]~~ 2600 kW 4 ~~for [Division 1 and 2] DGs, and ≥ [3300] kW and ≤ [3500] kW for [Division 3] DG.~~ 4	10 31 days ~~As specified in Table 3.8.1-1~~
<LCO 3.8.1.1.b.1.a> <LCO 3.8.1.1.b.2> <4.8.1.1.2.a.1> SR 3.8.1.4	Verify each 9 required day tank ~~[and engine mounted)~~ 2 ~~tank]~~ 2 contains ≥ ~~[220]~~ 250 4 gal of fuel oil ~~for [Divisions 1 and 2] and ≥ [220] gal for [Division 3]~~. 4 550 4	31 days
<4.8.1.1.2.b> SR 3.8.1.5	Check for and remove accumulated water from each 9 required day tank ~~[and engine mounted tank]~~ 2.	~~[31]~~ days 4
<4.8.1.1.2.a.3> SR 3.8.1.6	Verify ~~the~~ each required 1 9 fuel oil transfer system operates to ~~[automatically]~~ 4 transfer fuel oil from storage tank ~~[s]~~ to the day tank 2 ~~[and engine mounted tank]~~.	~~[92]~~ days 4

(continued)

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TSTF-163

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY 13
<4.8.1.1.2.a.4> <4.8.1.1.2 fnote *> SR 3.8.1.7 11 4 4010 4	-------------------NOTES------------------- 1. All DG starts may be preceded by an engine prelube period. 2. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. 11 -- Verify each required 9 DG starts from standby condition and achieves ~~in ≤ [10] seconds,~~ voltage ≥ [3744] V and ≤ [4576] V and frequency ≥ [58.8] Hz and ≤ [61.2] Hz.	a. in ≤ [10] seconds, voltage ≥ [3744] V and frequency ≥ [58.8] Hz; and b. steady state 184 days 4010 4 4310 4
<4.8.1.1.1.6> SR 3.8.1.8 4 4	~~-------------------NOTE------------------- This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. --~~ 12 Verify ~~[automatic and]~~ manual transfer of [unit power supply] from the [normal] offsite circuit to ~~each [required]~~ the alternate offsite circuit. ~~and between the [required] alternate] offsite circuits.~~	TSTF 8 changes not shown [~~18~~ 24 months] 4 4

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
<4.8.1.1.2.d.2> SR 3.8.1.9	-----NOTE~~S~~----- [11] [4] ~~1. This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.~~ [12] ~~2. If performed with DG synchronized with offsite power, it shall be performed at a power factor ≤ [0.9].~~ [13] ------------------------------------ A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. [11] Verify each required [9] DG rejects a load greater than or equal to its associated single largest post-accident load ~~for [Division 1 and ≥ [550] kW for Division 2] DGs and ≥ [2180] kW for [Division 3] DG, and:~~ ~~a.~~ ~~F~~ollowing load rejection, the frequency is ≤ ~~[69]~~ 66.7 [4] Hz~~:~~ [14] ~~b. Within [3] seconds following load rejection, the voltage is ≥ [3744] V and ≤ [4576] V; and~~ ~~c. Within [3] seconds following load rejection, the frequency is ≥ [58.8] Hz and ≤ [61.2] Hz.~~	TSTF-8 changes not shown. 24 [4] ~~[18]~~ months~~]~~

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
<4.8.1.1.2.d.3> SR 3.8.1.10	12 ---NOTE--- ~~This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.~~ ------ 9 required 13 Verify each required DG ~~operating at a power factor~~ ≤ [0.9] does not trip and voltage is maintained ≤ [5000] V during and following a load rejection of a load ≥ [5450] 2600 kW. 4 ~~and ≤ [5740] kW for [Division 1 and 2] DGs and ≥ [3300] kW and ≤ [3500] kW for [Division 3] DG.~~	TSTF-8 changes not shown ~~[18]~~ 24 4 months

(continued)

A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. 11

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SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
<4.4.8.1.2.d.4> SR 3.8.1.11	12 -------------------NOTES------------------- 2. 1. All DG starts may be preceded by an engine prelube period. ~~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 on an actual or simulated loss of offsite power signal: a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ ~~[10]~~ 13 seconds, 4 2. energizes auto-connected shutdown loads ~~through [automatic load sequencer]~~, 1 4 3. maintains steady state voltage ≥ ~~[3744]~~ 4010 V and ≤ ~~[4576]~~ 4310 V, 4. maintains steady state frequency ≥ [58.8] Hz and ≤ [61.2] Hz, and 5. supplies permanently connected and auto-connected shutdown loads for ≥ [5] minutes.	TSTF-8 changes not shown 12 ~~[18]~~ 24 months 4 1 for Divisions 1 and 2 only

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
⟨4.8.1.1.2.d.5⟩ SR 3.8.1.12 [12] ------NOTES------ 1. All DG starts may be preceded by an engine prelube period. ~~2. This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.~~ [12] ------------ [9] Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each required DG auto-starts from standby condition and: a. In ≤ ~~[10]~~ 13 [4] seconds after auto-start ~~and during tests,~~ 1 [15] achieves voltage ≥ ~~[3744]~~ 4010 [4] V and ~~≤ [4576] V~~, frequency ≥ 58.8 Hz [4] TSTF 163; b. ~~In ≤ [10] seconds after auto-start and during tests,~~ achieves frequency ≥ [58.8] Hz and ≤ [61.2] Hz; and [4] [4] steady state voltage ≥ ~~[3744]~~ 4010 V and ≤ ~~[4576]~~ 4310 V and [4] TSTF 163 c. Operates for ≥ [5] minutes. [4] ~~d. Permanently connected loads remain energized from the offsite power system; and~~ ~~e. Emergency loads are energized [or auto-connected through the automatic load sequencer] to from the offsite power system.~~ [2] [4]	TSTF-8 changes not shown [~~18~~ 24 [4] months]

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
<4.8.1.1.2.d.7> SR 3.8.1.13	12 ~~-------------------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.~~ 9 required 4 Verify each DG's automatic trips are bypassed on ~~[actual or simulated loss of voltage signal on the emergency bus concurrent with~~ an actual or simulated ECCS initiation signal] except: a. Engine overspeed; ~~[and]~~ 4 b. Generator differential current~~[;]~~. 4 ~~c. Low lube oil pressure;~~ ~~d. High crankcase pressure; and~~ ~~e. Start failure relay].~~	24 4 [~~18~~ months]

(continued)

If grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. [13]

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SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
<4.8.1.1.2.d.8> SR 3.8.1.14	------------------NOTES------------------ 1. Momentary transients outside the load and power factor ranges do not invalidate this test. [12] 2. ~~This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.~~ 3. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. [11] --- Verify each [9] required DG operating ~~at a~~ within the [13] limit power factor [2] ~~≤ [0.9] for Division 1 and 2 DGs, and ≤ [0.9] for Division 3 DG,~~ operates for ≥ 24 hours: a. For ≥ [4] 2 hours loaded ≥ ~~[5450]~~ 2360 [4] kW [2] ~~and ≤ [5740] kW for Division 1 and 2 DGs, ≥ [3630] kW and ≤ [3830] kW for Division 3 DG~~; and b. [4] For the remaining hours of the test loaded ≥ ~~[3744]~~ 2400 kW and ≤ ~~[4576]~~ 2600 [4] kW [2] ~~for Division 1 and 2 DGs, and ≥ [3300] kW and ≤ [3500] kW for Division 3 DG~~.	TSTF-8 changes not shown ~~[18]~~ 24 [4] months

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
<4.8.1.1.2.d.8> SR 3.8.1.15	------------------NOTES------------------ 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated 2400 4 ≥ ~~{2}~~ hours loaded ≥ ~~[4500]~~ 2600 4 kW and ≤ ~~[5000]~~ kW. ~~for [Division 1 and 2] DGs, and ≥ [3300] kW and ≤ [3500] kW for Division 3 DG.~~ 2 Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. 11 TSTF-163 --- 4 { 13 4010 : a. in ≤ [10] seconds, voltage ≥ [3744] V and frequency ≥ {58.8} Hz; and b. steady state TSTF-163 Verify each required 9 DG starts and achieves ~~in ≤ [10] seconds,~~ voltage ≥ ~~[3744]~~ 4010 V and ≤ ~~[4576]~~ 4310 4 V and frequency ≥ {58.8} 4 Hz and ≤ {61.2} 4 Hz. 4	TSTF-163 24 4 ~~{18 months}~~
<4.8.1.1.2.d.10> SR 3.8.1.16	~~------------------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.~~ ~~---~~ TSTF-8 changes not shown 12 Verify each required 9 DG: a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; b. Transfers loads to offsite power source; and c. Returns to ready-to-load operation.	~~{18 months}~~ 24 4

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
<4.8.1.1.2.d.11> 4	SR 3.8.1.17 ~~-----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. -----~~ 12 Verify, with a (required 9) DG operating in test mode and connected to its bus, an actual or simulated ECCS initiation signal overrides the test mode by: 1 (a) Returning DG to ready-to-load operation; and 2 ~~b. Automatically energizing the emergency load from offsite power.~~	TSTF-8 changes not shown (24) 4 ~~18~~ months 4 a. For Divisions 1 and 2 DGs, 1
<4.8.1.1.2.d.12> 4	SR 3.8.1.18 ~~-----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. -----~~ 12 1 For Division 1 and 2 DGs only, Verify interval between each sequenced load block is within ± 10% of design interval for each ~~load sequencer timer~~ time delay relay. 4 4	TSTF-8 changes not shown (24) 4 ~~18~~ months 4

(continued)

b. For Division 3 DG, an actual or simulated DG overcurrent trip signal automatically disconnects the offsite power source while the DG continues to supply normal loads. 1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
⟨4.8.1.1.2.d.6⟩ SR 3.8.1.19	12 ------------------NOTES------------------ ~~1.~~ All DG starts may be preceded by an engine prelube period. ~~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, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal: a. De-energization of emergency buses; b. Load shedding from emergency buses ~~;~~ for Divisions 1 and 2 only [1] and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ ~~[10]~~ 13 seconds, [4] 2. energizes auto-connected emergency loads ~~through a load sequencer~~, [1] [16] [4] 3. ~~achieves~~ maintains steady state voltage ≥ [3744] V and ≤ [4576] V, 4. ~~achieves~~ maintains steady state frequency ≥ [58.8] Hz and ≤ [61.2] Hz, and 5. supplies permanently connected and auto-connected emergency loads for ≥ [5] minutes.	TSTF-8 changes not shown ~~[18]~~ 24 months] [4]

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
<4.8.1.1.2.e> SR 3.8.1.20	-----NOTE----- All DG starts may be preceded by an engine prelube period. ----- 9 required Verify, when started simultaneously from standby condition, ~~[each]~~ ~~[Division 1, 2, and 3]~~ DG achieves, in ≤ [10] seconds, (13) voltage ≥ [3744] V and ~~≤ [4576] V and~~ frequency ≥ [58.8] Hz ~~and ≤ [61.2] Hz~~.	17 TSTF 163 changes not adopted 4 10 years

Insert SR 3.8.1.21 3

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Insert SR 3.8.1.21

SR 3.8.1.21	-------------------NOTE------------------ When the opposite unit is in MODE 4 or 5, or moving irradiated fuel assemblies in secondary containment, the following opposite unit SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, SR 3.8.1.14 through SR 3.8.1.16. --- For required opposite unit DG, the SRs of the opposite unit's Specification 3.8.1, except SR 3.8.1.12, SR 3.8.1.13, SR 3.8.1.17, SR 3.8.1.18, SR 3.8.1.19, and SR 3.8.1.20, are applicable.	In accordance with applicable SRs

Table 3.8.1-1 (page 1 of 1)
Diesel Generator Test Schedule

NUMBER OF FAILURES IN LAST 25 VALID TESTS[a]	FREQUENCY
≤ 3	31 days
≥ 4	7 days[b] (but ≥ 24 hours)

(a) Criteria for determining number of failures and valid tests shall be in accordance with Regulatory Position C.2.1 of Regulatory Guide 1.9, Revision 3, where the number of tests and failures is determined on a per DG basis.

(b) This test frequency shall be maintained until seven consecutive failure free starts from standby conditions and load and run tests have been performed. This is consistent with Regulatory Position [ ], of Regulatory Guide 1.9, Revision 3. If, subsequent to the 7 failure free tests, 1 or more additional failures occur such that there are again 4 or more failures in the last 25 tests, the testing interval shall again be reduced as noted above and maintained until 7 consecutive failure free tests have been performed.

[Note: If Revision 3 of Regulatory Guide 1.9 is not approved, the above table will be modified to be consistent with the existing version of Regulatory Guide 1.108, GL 84-15, or other approved version.]

10

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS 3.8.1 - AC SOURCES—OPERATING

1. The proper LaSalle 1 and 2 plant specific nomenclature/value has been provided.

2. This bracketed requirement has been deleted because it is not applicable to LaSalle 1 and 2. The following requirements have been renumbered, where applicable, to reflect this deletion.

3. Additional requirements were added to ISTS LCO 3.8.1 to ensure the appropriate AC sources are OPERABLE during unit operation in MODES 1, 2, and 3 to satisfy the requirements of GDC-17. The new requirements were added as LCO 3.8.1.c. This modification was necessary due to shared systems (i.e., Standby Gas Treatment System, Control Room Filtration System, Control Room Area Ventilation Air Conditioning System, and hydrogen recombiners) between both units. A Note has been added to the Applicability that allows the opposite unit's DG not to be required when the associated equipment is inoperable. This is an exception that is intended to allow declaring the opposite unit's Division 2 equipment inoperable in lieu of declaring the opposite unit's Division 2 DG inoperable. This exception also allows the supported equipment to be declared inoperable at any time subsequent to entering ACTIONS for an inoperable opposite unit's Division 2 DG. This exception is acceptable since with the opposite unit Division 2 equipment inoperable and the associated ACTIONS entered, the opposite unit's Division 2 DG provides no additional assurance of meeting the safety criteria of the given unit's AC sources.

   Two Notes have been added to the Surveillance Requirements Table and an additional Surveillance has been added to clearly define Applicability of the Surveillances to both units and to ensure the opposite unit's DG is OPERABLE.

   In addition, the Completion Times for multiple AC sources inoperable (Required Actions A.3, B.3, and C.4) have been revised to not reflect these additional LCO requirements since the equipment supported by the opposite unit's Division 2 AC power sources may be declared inoperable in lieu of declaring the power sources inoperable.

4. The brackets have been removed and the proper plant specific information/value has been provided.

5. The Completion Times in the third Completion Time for ISTS 3.8.1 Required Action A.3 and the second Completion Time for ISTS 3.8.1 Required Action B.4 (ITS 3.8.1 Required Action C.4) has been extended from 6 days to 10 days. The LaSalle design includes a shared DG associated with the Division 1 electrical power subsystem. A footnote in the LaSalle CTS modifies CTS Action 3.8.1.b to permit the shared DG to be out-of-service for up to 7 days if certain conditions are met and actions are taken. This allowance is provided to permit the conduct of pre-planned maintenance, modification, and surveillance testing with one unit in operation and the opposite unit in MODE 4 or 5. Proposed ITS 3.8.1, Condition B and revised Conditions C and

5. (continued)

G provide the corresponding allowance. In addition, incorporation of this allowance required a corresponding change to extend Completion Time limits provided in Required Actions A.3, B.3, and C.4. The new time provided in the second Completion Time is simply the sum of the Completion Times for a DG in accordance with Condition C and the 7 day Completion Time allowed in Action B and is consistent with the proposed Bases description.

Subsequent Conditions and Required Actions were renumbered after inclusion of these changes.

6. LaSalle Units 1 and 2 share a common Reactor Building and certain HVAC systems. Unit 1, Division 2 supplies power to one subsystem of these shared system, and Unit 2, Division 2 supplies power to the other subsystem of these shared systems. Because of this design, LCO requirement c. was added as described in JFD 3 above.

   If the Division 2 DG on the opposite unit is inoperable, the LaSalle CTS allows 72 hours to restore the DG, unless the unit Division 2 DG is also inoperable. Additional Conditions are proposed to be added to ISTS 3.8.1 Condition B (proposed ITS 3.8.1 Condition C) to define this limit and preserve the CTS requirements. In addition, a change to ISTS 3.8.1 Condition E (proposed ITS 3.8.1 Condition F) is being made that will limit the time during which both Division 2 DGs may be inoperable.

7. The proper LaSalle 1 and 2 plant specific LCO number has been provided.

8. Action E of ISTS 3.8.1 contains two Completion Times. The second Completion Time provides 24 hours to restore one required DG to an OPERABLE status if the Division 3 DG is inoperable. In proposed ITS 3.8.1 ACTION F, this Completion Time has been changed to 72 hours. This is consistent with the current licensing basis. CTS 3.8.1.1 Action i requires the requirements of Actions b and d to be applied when the Division 3 DG is inoperable concurrent with an inoperable Division 1 or 2 DG. Actions b and d permit 72 hours to restore the Division 1 or 2 DG and the Division 3 DG, respectively.

9. This change has been made to be consistent with the ITS use of "required."

10. The diesel generator accelerated test frequency requirements are included in the Diesel Generator Reliability Program, leaving the current and proposed Technical Specifications periodic Surveillance Frequency as 31 days. A plant procedure implements the requirements and responsibilities for tracking emergency DG failures for the determination and reporting of reaching trigger values specified in NUMARC 87-00. These requirements are more restrictive than those specified in NUREG-1434,

10. (continued)

Revision 1. In addition, Generic Letter 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Diesel Generators," allows Licensees to request removal of provisions for accelerated testing from TS. This change is also consistent with TSTF-37.

11. An additional Note has been added to several Surveillances to reflect the shared DG design and current interpretation of the existing requirements. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. This Note has been applied to ITS SRs 3.8.1.2, 3.8.1.3, 3.8.1.7, 3.8.1.9, 3.8.1.10, 3.8.1.14, and 3.8.1.15. In addition, where applicable, the Notes have been renumbered to reflect this addition.

12. Various Surveillance Requirements in ISTS 3.8.1 are modified by Notes which state the Surveillances shall not be performed in MODE 1, 2, or 3 (as applicable). These Notes also state that credit may be taken for unplanned events that satisfy the associated surveillance. These Notes have not been incorporated into the ITS for LaSalle 1 and 2. The control of plant conditions appropriate to performing Surveillances is an issue for procedures and scheduling and has been determined by the NRC staff to be unnecessary as a Technical Specification restriction. As indicated in Generic Letter 91-04, allowing this control is consistent with the vast majority of other Technical Specifications, which do not dictate plant conditions for the associated Surveillances. This detail of the Surveillance is a prerequisite for performance of the test and is not necessary for ensuring the requirements to demonstrate OPERABILITY of the DG or qualified offsite sources. In addition, the changes documented in TSTF-8, Rev. 2 have not been added since the Note has not been retained. Subsequent Notes have been renumbered as required.

13. ISTS SR 3.8.1.9, the single load rejection test, ISTS SR 3.8.1.10, the full load rejection test, and ISTS SR 3.8.1.14, the 24-hour endurance run, include power factor requirements for performance of the testing. However, during DG testing with light auxiliary load (e.g., during shutdown), rated power factor may not be able to be achieved without exceeding the design rating of 4300 volts. Exceeding 4300 volts results in exceeding the manufacturer's tolerances for safety-related 4 kV motors and for devices downstream of the 4kV system (e.g., 480V devices). Operating an electric motor above design rating can overexcite the motor, overheat the rotor and reduce its qualified life.

    In order to verify the DG can be operated at the design basis post accident conditions, ITS SR 3.8.1.14 (24 hr run) testing will be performed at a power factor as close to the limit as practicable. The power factor used for conducting the 24-hour endurance run

13. (continued)

must consider the effects of bus voltage on connected equipment. Therefore, for ComEd stations, "practicable" includes a criterion of not exceeding 4300 volts. Therefore, the limits are placed in the Bases rather than in the Surveillance.

Exceeding 4300 Volts on the medium voltage buses could result in exceeding 506 Volts at the terminals of low voltage motors due to the boost in the unit substation transformers combined with the high prospect of low transformer loading at the time of the test. During the test, many accident loads would not be running, leading to a minimal voltage drop through the transformer. The transformer tap is selected based on accident loading. The high terminal voltage could result in overexcitation of the motor. Overexcitation increases the heat rise in the winding, which decreases the qualified life of the motor. VAR demand is not constant on any power system. The generators must vary the reactive power to meet demand. Therefore, holding the power factor static is not representative of the system requirements. The station operators do not have instrumentation directly indicating power factor. Control room metering indicates reactive power (kVAR). Specifying a limit of 1600 kVAR is a better reflection of the calculations and the available metering. Operating the generator above unity power factor unnecessarily exposes the generator to damage. If the DG output breaker were to trip, the combination of high internal voltage and the transient due to the interruption of current through an inductive reactance will result in high voltage. The point on the waveform when the circuit breaker opens also influences the magnitude of transient voltage. This could damage the winding of the generator. Therefore, it is prudent to limit the time of exposure as there is risk associated with operation of the generator at accident power factor for long periods.

Even when the grid voltage may be such that the DG excitation levels needed to obtain the specified power factor may not cause unacceptable voltages on the emergency busses, there is risk associated with operating the generator above unity power factor. If the DG output breaker were to trip, the combination of high internal voltage and the transient due to the interruption of current through an inductive reactance will result in high voltage. The point on the waveform when the circuit breaker opens also influences the magnitude of transient voltage. This could damage the winding of the generator. Therefore, it is not practicable to operate the generator in droop mode at the anticipated worst case accident power factor for long periods. The inductive load will vary during the accident. VAR demand is dependent on the connected loads, starting of induction motors and system impedance. Raising the voltage regulator for an output of 1600 kVAR (equal to approximately 0.85 power factor at rated kW output), maintaining this output for a short time period, then returning output to near unity power factor is more representative of system requirements.

For ITS SR 3.8.1.9, the single load rejection test, and ITS SR 3.8.1.10, the full load rejection test, operating at rated kW and rated power factor results in maximum steady

13. (continued)

state current output and maximum generator internal voltages. A load rejection with these conditions will result in interrupting the maximum steady state current and have the highest transient voltage. A load rejection under these conditions may result in exceeding the maximum voltage limit. The CTS full load rejection tests require a trip of the generator from rated kW with no power factor identified. In accordance with Regulatory Guide 1.9, the diesel generator single and full load rejection tests also include an acceptance criterion for the resulting frequency or voltage, respectively, to be within the required limits. These are proposed to be retained without the Regulatory Guide 1.9, Rev. 3, power factor requirements for load rejection tests.

Transient voltage is a function of the generator design (sub-transient reactance) and the output circuit breaker design (time required to extinguish the arc). These parameters can vary significantly between diesel generator sizes and vendors. ComEd experience indicates that normal transient voltage after a full load rejection at unity power factor approaches the limit of 5000 volts. Performing the test at rated power factor will result in higher transient voltages that will exceed the limit, not only since the initial internal voltage is higher, but due to the interruption of current through an inductive reactance. The magnitude of transient voltage is also influenced by the point on the waveform when the circuit breaker opens. Exceeding the limit will stress the insulation systems of the generator and connected motors by the high voltage. Motors being disconnected will also be stressed, but to a somewhat lesser extent. The length of time that the high voltage will be present is very brief, the voltage level decays exponentially and the maximum voltage is less than that achieved during high potential testing required for insulation. Accordingly, neither the generator nor the ECCS loads would fail from a single event; however repeated exposures to high voltage could result in a failure of the windings. Therefore, the ITS load rejection testing of the diesel generators does not include the power factor conditions that would result in exceeding the voltage limits and degradation of the equipment.

14. ISTS SR 3.8.1.9.b imposes a time limit on return to steady state voltage following a single largest load rejection. Similarly, ISTS SR 3.8.1.9.c imposes a time limit on return to steady state frequency. CTS 4.8.1.1.2.d.2 (ISTS SR 3.8.1.9.a) only requires the maximum frequency to be maintained less than the limit following the single largest load rejection to ensure adequate margin to the DG overspeed trip setting. Thus, the CTS does not include time limits for restoration of voltage and frequency to within the steady state limits or a verification of steady state voltage and frequency. The restoration of voltage and frequency to steady state conditions within a time limit following a single largest load rejection is controlled by plant procedures. The specific time limit criteria referenced in ISTS SR 3.8.1.9.b and c would not be appropriate for certain methods of performing this test, e.g., if performed while the DG was loaded only with the single largest load. It is, therefore, proposed to delete the verification of steady state voltage and frequency and their associated time limit requirements in ISTS SR 3.8.1.9.b and c, since current procedures adequately control DG voltage frequency,

14. (continued)

    and other SRs adequately demonstrate the capability to restore voltage frequency to within the steady state limits. In addition, due to these deletions, the load reject maximum frequency requirement has been made part of the first paragraph, instead of leaving it as part a.

15. Typographical/grammatical error corrected.

16. The word in ISTS SR 3.8.1.19.c.3 and 4 has been changed from "achieves" to "maintains" for consistency with ISTS SR 3.8.1.11.

17. The steady state limit does not apply to the simultaneous start of all DGs (ISTS SR 3.8.1.20), since it is a test of starting independence, not operating independence. This is consistent with the current LaSalle 1 and 2 Licensing Basis. Since the steady state limit is not being added into the LaSalle 1 and 2 ITS, TSTF-163 changes are not necessary and also have not been adopted.

18. The second Completion Time of ISTS 3.8.1 Required Action A.3 has been deleted since in this condition the other qualified offsite source and the OPERABLE DG will still be available to supply the emergency buses. This change is consistent with the current licensing basis.

19. Not used.

20. The Completion Time of ITS 3.8.1 Required Action A.3 has been extended from 72 hours to 7 days. This allowance is consistent with the current licensing basis for portions of the qualified circuit associated with the opposite unit Division 2 emergency bus. This change is addressed in detail in the Discussion of Changes for ITS 3.8.1.

⟨CTS⟩

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources—Shutdown

⟨LCO 3.8.1.2, LCO 3.8.1.2.a, LCO 3.8.1.2.b⟩ LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

a. One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.~~10~~ 8, "Distribution Systems—Shutdown"; and [1]

b. One diesel generator (DG) capable of supplying one division of the Division 1 or 2 onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.~~10~~ 8; [1] ~~and~~ [2]

c. ~~One qualified circuit, other than the circuit in LCO 3.8.2.a, between the offsite transmission and the Division 3 onsite Class 1E electrical power distribution subsystem, or~~ [8] the Division 3 DG capable of supplying the Division 3 onsite Class 1E AC electrical power distribution subsystem, when the Division 3 onsite Class 1E electrical power distribution subsystem is required by LCO 3.8.~~10~~ 8 [1]; and [2]) [3]

[2] INSERT LCO d.

⟨Appl 3.8.1.2⟩ APPLICABILITY: MODES 4 and 5,
During movement of irradiated fuel assemblies in the ~~[primary or~~ secondary~~]~~ containment. [4]

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<LCO 3.8.1.2.b>

Insert LCO d.

d. One qualified circuit, which may be the same circuit in LCO 3.8.2.a, between the offsite transmission network and the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem, or the opposite unit DG capable of supplying the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem, when the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem is required by LCO 3.8.8.

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<3.8.1.2 Act d>

NOTE
LCO 3.0.3 is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<3.8.1.2 Act a> A. LCO Item a. not met.	------------NOTE------------ Enter applicable Condition and Required Actions of LCO 3.8.~~10~~ 8 [1], ~~with one~~ when any [6] required division is [6] de-energized as a result of Condition A. ----------------------------	
	A.1 Declare affected required feature(s) with no offsite power available inoperable.	Immediately
	OR	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	A.2.2 Suspend movement of irradiated fuel assemblies in the ~~primary and~~ secondary* containment. [4]	Immediately
	AND	
	A.2.3 Initiate action to suspend operations with a potential for draining the reactor vessel (OPDRVs).	Immediately
	AND	
	A.2.4 Initiate action to restore required offsite power circuit to OPERABLE status.	Immediately

(continued)

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ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
<3.8.1.2 Actc> B. LCO Item b. not met.	B.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	B.2	Suspend movement of irradiated fuel assemblies in ~~[primary and~~ secondary] containment. 4	Immediately
	AND		
	B.3	Initiate action to suspend OPDRVs.	Immediately
	AND		
	B.4	Initiate action to restore required DG to OPERABLE status.	Immediately
<3.8.1.2 Actc> C. LCO Item c. not met.	C.1	Declare ~~HPCS [and 2C Standby Service Water~~ High Pressure Core Spray System] inoperable.	[72 hours] 4

INSERT ACTION D 2

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<3.8.1.2 Act d>

Insert ACTION D

D. LCO Item d. not met.	D.1 Declare associated standby gas treatment subsystem, control room area filtration subsystem, and control room area ventilation air conditioning subsystem inoperable.	Immediately

<CTS>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.2.1 <LCO 3.8.1.2.b.1.a> <LCO 3.8.1.2.b.2>	-------------------NOTES------------------ 1. The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, SR 3.8.1.13 through SR 3.8.1.16, SR 3.8.1.18, and SR 3.8.1.19. 4 2. SR 3.8.1.12 and SR 3.8.1.19 are not required to be met when associated ECCS subsystem(s) are not required to be OPERABLE per LCO 3.5.2, "ECCS – Shutdown." TSTF-300 7 -- For AC sources required to be OPERABLE, the SRs of Specification 3.8.1, except SR 3.8.1.8, SR 3.8.1.17, and SR 3.8.1.20, are applicable.	7 In accordance with applicable SRs

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS 3.8.2 - AC SOURCES—SHUTDOWN

1. The proper LCO number has been provided. This change was necessary due to the deletion of ISTS 3.8.7, Inverters—Operating" and ISTS 3.8.8, "Inverters—Shutdown."

2. LCO 3.8.2.d and ACTION D have been added to ITS 3.8.2 to be consistent with CTS 3.8.1.2.b. These requirements ensure that an opposite unit Division 2 AC source (offsite circuit or DG) is OPERABLE when the standby gas treatment subsystem, the control room area filtration subsystem, or the control room area ventilation air conditioning subsystem is required to be OPERABLE. In addition, the conjunction "and" was moved from the end of ITS LCO 3.8.2.b to the end of ITS LCO 3.8.2.c.

3. Typographical/grammatical error corrected.

4. The brackets have been removed and the proper plant specific information/value has been provided.

5. The ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in Mode 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in Mode 1, 2, or 3, the fuel movement is independent of reactor operations. This clarification is necessary because defaulting to LCO 3.0.3 during irradiated fuel assembly movement in Mode 1, 2, or 3 would require the reactor to be shutdown, but would not require suspension of movement of irradiated fuel assemblies. Therefore, the proposed Note ensures that proper actions are taken when moving irradiated fuel assemblies in Mode 1, 2, or 3 (i.e., LCO 3.0.3 is not applicable and cannot be used in lieu of suspending fuel movement as required by the ACTIONS of the LCO). This change is also consistent with TSTF-36, Rev. 4, and CTS 3.8.1.2 Action d.

6. This change has been made for clarity to ensure LCO 3.8.8 is entered when one <u>or more</u> required divisions are de-energized. The current words could be misinterpreted to mean that LCO 3.8.8 is entered when only one division is de-energized.

7. A new Note has been added to ITS SR 3.8.2.1. The Note (Note 2) exempts the requirement that the DGs be capable of responding to a LOCA signal (i.e., eliminate the requirement for ITS SR 3.8.1.12 and SR 3.8.1.19 to be met) when the associated ECCS subsystems are not required to be Operable. During shutdown Modes when the reactor cavity is flooded and when the reactor vessel is defueled, the ECCS subsystems are not required to be Operable. Therefore, the LOCA start function of the DGS serve no safety significant support function. As such, the SRs that test the DG capability to start on a LOCA signal are not required and have been deleted from the DG Operability requirements. This change is also consistent with TSTF-300, Rev. 0.

8. The allowance in ISTS LCO 3.8.2.c to have an additional qualified offsite circuit to supply Division 3 has been deleted since there is only one available qualified offsite circuit available to supply Division 3.

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3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil~~, Lube Oil,~~ and Starting Air 1

<DOC A.2> LCO 3.8.3 The stored diesel fuel oil~~, lube oil,~~ and starting air subsystem shall be within limits for each required diesel generator (DG).

<DOC A.2> APPLICABILITY: When associated DG is required to be OPERABLE.

ACTIONS

<DOC L.1>

---------------------------------NOTE---------------------------------
Separate Condition entry is allowed for each DG.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<DOC L.1> A. One or more DGs with Stored fuel oil level: 1. ~~For [DG 11 or 12],~~ < ~~[62,000]~~ 31,000 gal and ≥ ~~[49,000]~~ 26,550 gal; and 2. ~~For [DG 13],~~ < ~~[41,200]~~ 29,750 gal and ≥ ~~[33,300]~~ 25,550 gal.	A.1 Restore stored fuel oil level to within limit~~s~~. In the fuel oil storage tank for the Division 1 and Division 2 DGs, and the opposite unit Division 2 DG In the combined day tank and fuel storage tank for the Division 3 DG	48 hours
~~B. One or more DGs with lube oil inventory: 1. For [DG 11 or 12], < [ ] gal and ≥ [425] gal; and 2. For [DG 13], < [ ] gal and ≥ [ ] gal.~~	~~B.1 Restore lube oil inventory to within limits.~~	~~48 hours~~

(continued)

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ACTIONS (continued) 1

CONDITION	REQUIRED ACTION	COMPLETION TIME
<DOC L.1> B. ~~C.~~ One or more DGs with stored fuel oil total particulates not within limit.	B. ~~C~~.1 Restore stored fuel oil total particulates to within limit. 2	7 days
<DOC L.1> C. ~~D.~~ One or more DGs with new fuel oil properties not within limits. 1	C. ~~D~~.1 Restore stored fuel oil properties to within limits.	30 days
<DOC L.1> D. ~~E.~~ One or more DGs with required starting air receiver pressure < ~~[225]~~ 200 psig and ≥ ~~[125]~~ 165 psig. 2 1 4	D. ~~E~~.1 Restore required starting air receiver pressure to ≥ ~~[225]~~ 200 psig. 2 4	48 hours
<DOC L.1> E. ~~F.~~ Required Actions and associated Completion Time of Condition A, B, C, or D not met. 1 2 OR One or more DGs with stored diesel fuel oil, ~~lube oil,~~ or starting air subsystem not within limits for reasons other than Condition A, B, C, or D ~~or E~~. 2 1 1	E. ~~F~~.1 Declare associated DG inoperable.	Immediately

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SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
<LCO 3.8.1.1.b.1.b> <LCO 3.8.1.1.b.2> <LCO 3.8.1.2.b.2> <4.8.1.1.2.a.1> <4.8.1.1.2.a.2> <4.8.1.2>	SR 3.8.3.1 Verify ~~each fuel oil storage tank contains~~: ≥ 31,000 gal of fuel for the Division 1 and Division 2 DGs and the opposite unit Division 2 DG. 4 a. ~~≥ [62,000] gal of fuel for [DGs 11 and 12;] and~~ b. ~~≥ [41,200] gal of fuel for [DG 13]~~ ≥ 29,750 gal of fuel in the combined fuel oil storage tank and day tank for the Division 3 DG. 6 4	31 days
	~~SR 3.8.3.2 Verify lube oil inventory is:~~ ~~a. ≥ [ ] gal for [DGs 11 and 12;] and~~ ~~b. ≥ [ ] gal for [DG 13].~~ 1	~~31 days~~
<DOC A.4> <4.8.1.2>	SR 3.8.3.~~3~~ 2 Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program. 1	In accordance with the Diesel Fuel Oil Testing Program 2
<4.8.1.1.2.a.7> <4.8.1.2>	SR 3.8.3.~~4~~ 3 Verify each required DG air start receiver pressure is ≥ ~~[225]~~ 200 psig. 1 4	31 days
	~~SR 3.8.3.5 Check for and remove accumulated water from each fuel oil storage tank.~~	~~[31] days~~ 7
	~~SR 3.8.3.6 For each fuel oil storage tank:~~ ~~a. Drain the fuel oil;~~ ~~b. Remove the sediment; and~~ ~~c. Clean the tank.~~	~~10 years~~ TSTF-2

1. DG lube oil storage requirements are administratively controlled to ensure a sufficient supply of lube oil is available onsite to support the run time requirements assumed in the accident analysis. Therefore, the ACTIONS and Surveillance Requirements for lube oil are not being retained in ITS 3.8.3. The ITS 3.8.3 title and requirements have been revised and subsequent requirements are renumbered, as required, to reflect this change. This change has been made to reflect the current licensing basis description.

2. Change made to be consistent with the Writers Guide.

3. Typographical/grammatical error corrected.

4. The brackets have been removed and the proper plant specific information/value has been provided.

5. Not used.

6. The LaSalle design utilizes a combined day tank/storage tank volume for the Division 3 (HPCS) DG fuel oil storage based on the configuration of the fuel transfer pumps and tanks. Therefore, Condition A and the Surveillance Requirement have been revised to reflect this configuration.

7. The fuel oil storage tanks are located within rooms that are beneath the diesel generators, and are free-standing. As a result, the tanks are not susceptible to water accumulation due to groundwater intrusions. Additionally, the day tank verification of water will detect whether there is any water carryover from the storage tank to the day tanks. In the event water carryover is detected, corrective actions will be taken. Verification of water accumulation in the storage tank in addition to the day tank is not necessary. In addition, this requirement is not part of the current licensing basis for LaSalle. Therefore, this SR has been deleted.

<CTS>

3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources—Operating

<LCO 3.8.2.3> <DOC A.2> <DOC M.1> LCO 3.8.4 The [Division 1], [Division 2], ~~and~~ [Division 3], and the opposite unit Division 2 DC electrical power subsystems shall be OPERABLE. 1

<Appl 3.8.2.3> <DOC M.1> APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
<3.8.2.3 Act a> A. [Division 1 or 2] 125V DC electrical power subsystem inoperable.	A.1	Restore 125V [Division 1 and 2] DC electrical power subsystems to OPERABLE status.	2 hours 1
<3.8.2.3 Act b> B. [Division 3] DC electrical power subsystem inoperable.	B.1	Declare High Pressure Core Spray System ~~[and 2C Standby Service Water System]~~ inoperable.	Immediately 1
<3.8.2.3 Act c> D. Opposite unit Division 2 DC electrical power subsystem inoperable.	D.1	Restore opposite unit Division 2 DC electrical power subsystem to OPERABLE status.	7 days 2
<DOC A.6> C. Division 1 250V DC electrical power subsystem inoperable.	C.1	Declare associated supported features inoperable.	Immediately 2
<3.8.2.3 Act a> ~~C~~ E. Required Action and associated Completion Time not met.	~~C~~ E.1	Be in MODE 3.	12 hours 2
	AND		
	~~C~~ E.2	Be in MODE 4.	36 hours

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<DOC A.5>

<DOC A.5>

NOTES

1. SR 3.8.4.1 through SR 3.8.4.8 are applicable only to the given unit's DC electrical power sources.
2. SR 3.8.4.9 is applicable only to the opposite unit DC electrical power source.

3

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
<4.8.2.3.2.a> <4.7.3.d.1 4.7.3.d.1.d> SR 3.8.4.1	Verify battery terminal voltage ~~is~~: a. ≥ ~~[129] V~~ 128 V for the 125 V batteries, and ~~on float charge~~. b. ≥ 256 V for the 250 V battery. 1	7 days
<4.8.2.3.2.b> <DOC M.2> SR 3.8.4.2	Verify no visible corrosion at battery terminals and connectors. OR Verify battery connection resistance ~~is~~ ≤ 1.5 E-4 ohm for inter-cell connections, ~~≤ 1.5 E-4 ohm for inter-rack connections, ≤ 1.5 E-4 ohm for inter-tier connections,~~ and ≤ 1.5 E-4 ohm for terminal connections. 1	92 days
<4.8.2.3.2.c.1> <4.7.3.d.3a> SR 3.8.4.3	Verify battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance. TSTF 38	24 ~~12~~ months 1
<4.8.2.3.2.c.2> <4.7.3.d.3.b> 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. 1	24 ~~12~~ months 1
<4.8.2.3.2.c.3> <DOC M.2> SR 3.8.4.5	Verify battery connection resistance ~~is~~ ≤ 1.5 E-4 ohm for inter-cell connections, ~~≤ 1.5 E-4 ohm for inter-rack connections, ≤ 1.5 E-4 ohm for inter-tier connections,~~ and ≤ 1.5 E-4 ohm for terminal connections. 1	24 ~~12~~ months 1

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
<4.8.2.3.2.c.4> SR 3.8.4.6 <Doc M.2>	~~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.~~ TSTF 8 CHANGES NOT SHOWN 4 Verify each ~~{required}~~ battery charger supplies ~~≥ [400] amps at ≥ [250/125] V for ≥ [8] hours.~~	~~18~~ 24 months 1
<4.8.2.3.2.d> <4.8.2.3.2.e> SR 3.8.4.7 <Doc M.2>	NOTE~~S~~ 4 ~~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.~~ provided the modified performance discharge test completely envelops the service test. 5 ~~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.~~ TSTF 8 NOT ADOPTED 4 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.	~~18~~ 24 months 1

(continued)

a. ≥ 200 amps at ≥ 130 V for ≥ 4 hours for the Division 1 and Division 2 125V battery chargers;

b. ≥ 50 amps at ≥ 130 V for ≥ 4 hours for the Division 3 125V battery charger; and

c. ≥ 200 amps at ≥ 260 V for ≥ 4 hours for the 250V battery charger.

1

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SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
<4.8.2.3.2.e 4.8.2.3.2.f> SR 3.8.4.8	~~-------------------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. ---~~ TSTF 5 NOT ADOPTED 4 Verify battery capacity is ≥ [80]% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	60 months 1 **AND** 12 months when battery shows degradation or has reached [85]% of expected life with capacity < 100% of manufacturer's rating 1 **AND** 24 months when battery has reached [85]% of the expected life with capacity ≥ 100% of manufacturer's rating 1
<DOC A.5> SR 3.8.4.9	------------------NOTE------------------ When the opposite unit is in Mode 4 or 5, or moving irradiated fuel in the secondary containment, the following opposite unit SRs are not required to be performed: SR 3.8.4.6, SR 3.8.4.7, and SR 3.8.4.8. --- For the opposite unit Division 2 DC electrical power subsystem, the SRs of the opposite unit Specification 3.8.4 are applicable.	In accordance with applicable SRs 3

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS: 3.8.4 - DC SOURCES—OPERATING

1. The brackets have been removed and the proper plant specific information/value has been provided.

2. Proposed ITS 3.8.4 ACTIONS C and D have been added to be consistent with the current licensing basis Actions for inoperable DC sources. The following Actions have been renumbered due to these additions.

3. The proposed SR Notes and SR 3.8.4.9 are provided to ensure that the appropriate Surveillances for required opposite unit DC electrical power subsystems are governed by the Technical Specifications. Performance of the applicable opposite unit Surveillances will satisfy opposite unit requirements as well as satisfying the given unit Surveillance Requirements.

4. Various Surveillance Requirements in ISTS 3.8.4 are modified by Notes which state the Surveillances shall not be performed in MODE 1, 2, or 3. These Notes also state that credit may be taken for unplanned events that satisfy the associated Surveillance. These Notes have not been incorporated into the ITS for LaSalle 1 and 2. The control of plant conditions appropriate to performing Surveillances is an issue for procedures and scheduling and has been determined by the NRC staff to be unnecessary as a Technical Specification restriction. As indicated in Generic Letter 91-04, allowing this control is consistent with the vast majority of other Technical Specifications, which do not dictate plant conditions for the associated Surveillances. This detail of the Surveillance is a prerequisite for performance of the test and is not necessary for ensuring the requirements to demonstrate OPERABILITY of the DG or qualified offsite sources. In addition, the changes documented in TSTF-8, Rev. 2 have not been added since the Note has not been retained. Subsequent Notes have been renumbered as required.

5. The modified performance discharge test will be allowed to be substituted for the service test at any time, instead of just once every 60 months, as is currently allowed by Note 1 by ISTS SR 3.8.4.7. The modified performance discharge test normally consists of a simulated duty cycle with two rates: the 1 minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance discharge test. (The test can consist of a single rate if the test rate employed for the performance discharge test exceeds the 1 minute rate.) The service test consists of a four hour duty cycle with various rates, depending upon the battery being tested: the 1 minute rate for the largest current load of the duty cycle, the rates based on the loads of the duty cycle (1 minute through 239 minutes), and a final 1 minute rate (if applicable) based on the cycling loads of the duty cycle. To assure the modified performance discharge test completely envelopes the service test duty cycle, additional loads and durations of the duty cycle may be added to the modified performance discharge test prior to going to a constant current rate. Thus, the modified performance discharge test is a more severe test of the battery capacity. To

5. (continued)

ensure the modified performance discharge test will only be substituted as long as it remains a more severe test of the battery, the Note also states that the substitution is only allowed as long as the modified performance discharge test completely envelops the service test.

The Note is revised to allow performance of the modified performance discharge test at each refueling outage; i.e., the new allowance may be used to always perform the modified performance discharge test in lieu of the service test. Performing the modified performance discharge test every refueling outage instead of the current 60 month requirement allows better trending of the battery capacity with more data points (over a 20 year battery service life, 10 trend points if the test is performed every 24 months (the proposed refueling outage interval) versus only four trend points if performed every 60 months). At the same time, the service use of the battery continues to be verified every cycle. This will also allow more accurate identification of when a battery is approaching degradation and allow for corrective action in a more timely manner. This will enhance the battery performance. The additional deep cycles that result from performing the modified performance discharge test more frequently will not significantly affect the batteries. Each battery is designed for 30 deep cycles; performing a modified performance discharge test every 24 months only increases the number of deep cycles resulting from testing from 4 to 10. Thus, there are still 20 deep cycles remaining for any plant required DC challenges. However, if an excess number of challenges are used, the battery can always be replaced at an earlier date (i.e., before the nominal 20 year service life expires).

In addition, the basis of the current requirement to perform the service test is IEEE 450, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations." This proposed change is supported by the latest version of IEEE-450 (1995). Section 5.4 of this standard states "The modified performance discharge test can be used in lieu of a service test at any time."

<CTS>

3.8 ELECTRICAL POWER SYSTEMS

3.8.5 DC Sources—Shutdown

<LCO 3.8.2.4> <DOC A.2> <DOC M.1>

LCO 3.8.5 DC electrical power subsystem(s) shall be OPERABLE to support the electrical power distribution subsystem(s) required by LCO 3.8.~~10~~ 8, "Distribution Systems—Shutdown." 1

<Appl 3.8.2.4> APPLICABILITY: MODES 4 and 5,
During movement of irradiated fuel assemblies in the ~~primary or~~ secondary containment. 2

4 INSERT ACTION A

ACTIONS <3.8.2.4 Note>

----NOTE----
LCO 3.0.3 is not applicable
------------ 3

CONDITION	REQUIRED ACTION	COMPLETION TIME
<3.8.2.4 Act a> <3.8.2.4 Act b> ~~A.~~ B ~~One or more required DC electrical power subsystems inoperable.~~	~~A~~ B.1 4 Declare affected required feature(s) inoperable.	Immediately
<3.8.2.4 Act c> <3.8.2.4 Act d> Required Action and associated Completion Time of Condition A not met. OR Required opposite unit Division 2 DC electrical power subsystem inoperable. OR -----NOTE----- Only applicable when the opposite unit is in MODE 1, 2, or 3. ---------------- One or more required unit Division 1, 2, and 3 DC electrical power subsystems inoperable.	OR ~~A~~ B.2.1 4 Suspend CORE ALTERATIONS.	Immediately
	AND ~~A~~ B.2.2 4 Suspend movement of irradiated fuel assemblies in the ~~primary or~~ secondary containment. 2	Immediately
	4 AND ~~A~~ B.2.3 Initiate action to suspend operations with a potential for draining the reactor vessel. AND	Immediately
		(continued)

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<3.8.2.4 Act c>

Insert ACTION A

A. -------NOTE------- Not applicable when the opposite unit is in MODE 1, 2, or 3. ------------------ One or more required unit Division 1, 2, and 3 DC electrical power subsystems inoperable.	A.1 Verify associated DC electrical power distribution subsystem is energized by OPERABLE opposite unit DC electrical power subsystem. <u>AND</u> A.2 Restore required unit Division 1, 2, and 3 DC electrical power subsystem to OPERABLE status.	1 hour 72 hours

<CTS>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
4 B ~~A~~ (continued) <3.8.2.4 Act a 3.8.2.4 Act b 3.8.2.4 Act c 3.8.2.4 Act d>	B 4 ~~A~~.2.4 Initiate action to restore required DC electrical power subsystems to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
<4.8.2.4.2> SR 3.8.5.1	---NOTE--- The following SRs are not required to be performed: SR 3.8.4.6, SR 3.8.4.7, and SR 3.8.4.8. --- For DC ~~sources~~ electrical power subsystems required to be OPERABLE the following SRs are applicable: SR 3.8.4.1, SR 3.8.4.4, SR 3.8.4.7, SR 3.8.4.2, SR 3.8.4.5, SR 3.8.4.8, and SR 3.8.4.9 1 SR 3.8.4.3, SR 3.8.4.6,	In accordance with applicable SRs 5 6

1. The proper LCO number has been provided. This change was necessary due to the deletion of ISTS 3.8.7, "Inverters—Operating," and ISTS 3.8.8, "Inverters—Shutdown." Also, an additional SR was added to be consistent with changes made to ITS 3.8.4.

2. The brackets have been removed and the proper plant specific information/value has been provided.

3. The ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in Mode 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in Mode 1, 2, or 3, the fuel movement is independent of reactor operations. This clarification is necessary because defaulting to LCO 3.0.3 during irradiated fuel assembly movement in Mode 1, 2, or 3 would require the reactor to be shutdown, but would not require suspension of movement of irradiated fuel assemblies. Therefore, the proposed Note ensures that proper actions are taken when moving irradiated fuel assemblies in Mode 1, 2, or 3 (i.e., LCO 3.0.3 is not applicable and cannot be used in lieu of suspending fuel movement as required by the ACTIONS of the LCO). This change is also consistent with TSTF-36, Rev. 4 and the CTS.

4. The design of the LaSalle 1 and 2 DC Electrical Power System provides cross-ties between Unit 1 and Unit 2, such that a divisional DC source on one unit can provide power to the same DC distribution division on the opposite unit. Therefore, a new ACTION has been provided, consistent with current licensing basis as modified by the Discussion of Changes for ITS 3.8.5. The following ACTION has been renumbered, to reflect this addition. In addition, changes have also been made to ISTS 3.8.5 Condition A (see new second Condition) due to opposite unit DC source requirements. This is also consistent with current licensing basis.

5. Editorial change made to match the words in the LCO and ACTION requirements.

6. Change made to be consistent with the Writers Guide.

<CTS>

3.8 ELECTRICAL POWER SYSTEMS

3.8.6 Battery Cell Parameters

1

<DOC A.2>
<DOC A.6>

LCO 3.8.6 Battery cell parameters for the {Division 1, 2, and 3} batteries shall be within the limits of Table 3.8.6-1. TSTF-278

<DOC A.6>

APPLICABILITY: When associated DC electrical power subsystems are required to be OPERABLE.

ACTIONS

-----NOTE-----
<DOC A.4> Separate Condition entry is allowed for each battery.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<Table 4.8.2.3.2-1 fnote (1) Table 4.8.2.3.2-1 fnote (2)> <DOC L.5> A. One or more batteries with one or more battery cell parameters not within Category A or B limits. Table 3.8.6-1 TSTF-278	A.1 Verify pilot cell{s} electrolyte level and float voltage meet Table 3.8.6-1 Category C limits. 1	1 hour
	AND	
	A.2 Verify battery cell parameters meet Table 3.8.6-1 Category C limits.	24 hours AND Once per 7 days thereafter
	AND	
	A.3 Restore battery cell parameters to Category A and B limits of Table 3.8.6-1.	31 days

(continued)

<CTS>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<Table 4.8.2.3.2-1 fnote(3)> <DOC A.5> <DOC L.5> B. Required Action and associated Completion Time of Condition A not met. OR One or more batteries with average electrolyte temperature of the representative cells < *60*°F for 125V batteries, or < 65°F for 250V battery [1] OR One or more batteries with one or more battery cell parameters not within Table 3.8.6-1 [TSTF 278] Category C ~~values~~ limits [2]	B.1 Declare associated battery inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<4.8.2.3.2.a.1> <DOC M.4> <4.7.3.d.1> SR 3.8.6.1 Verify battery cell parameters meet Table 3.8.6-1 Category A limits.	7 days

(continued)

<CTS>

SURVEILLANCE REQUIREMENTS (continued)

		SURVEILLANCE	FREQUENCY
<4.8.2.3.2.b.1> <DOC M.4> <4.7.3.d.2>	SR 3.8.6.2	Verify battery cell parameters meet Table 3.8.6-1 Category B limits.	92 days **AND** Once within ~~24 hours~~ 7 days [3] after battery discharge < [110] V for 125 V batteries and < 220 V for the 250 V battery [1] **AND** Once within ~~24 hours~~ 7 days [3] after battery overcharge > [150] V for 125 V batteries and > 300 V for the 250 V battery [1]
<4.8.2.3.2.b.3> <DOC M.4>	SR 3.8.6.3	Verify average electrolyte temperature of representative cells is ≥ [60] °F for 125 V batteries and ≥ 65°F for the 250 V battery [1].	92 days

<CTS>

<Table 4.8.2.3.2-1>
<4.7.3.d.1.b>
<4.7.3.d.1.c>
<4.7.3.d.2>

Table 3.8.6-1 (page 1 of 1)
Battery Cell Parameter Requirements

PARAMETER	CATEGORY A: LIMITS FOR EACH DESIGNATED PILOT CELL	4 CATEGORY B: LIMITS FOR EACH CONNECTED CELL	2 CATEGORY C: ~~ALLOWABLE~~ LIMITS FOR EACH CONNECTED CELL
Electrolyte Level	> Minimum level indication mark, and ≤ ¼ inch above maximum level indication mark[(a)]	> Minimum level indication mark, and ≤ ¼ inch above maximum level indication mark[(a)]	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 V	≥ 2.13 V	> 2.07 V
Specific Gravity[(b)(c)] 1	≥ ~~[1.195]~~ 1.200	≥ {1.190} 5 AND Average of all connected cells > {1.200} 5	Not more than 0.020 below average of all connected cells AND Average of all connected cells ≥ {1.190} 5

(a) It is acceptable for the electrolyte level to temporarily increase above the specified maximum level during and following equalizing charges provided it is not overflowing. 5

(b) Corrected for electrolyte temperature and level. ~~Level correction is not required, however, when battery charging is < {2} amps when on float charge.~~ 6 1

(c) A battery charging current of < {2} amps when on float charge is acceptable for meeting specific gravity limits following a battery recharge, for a maximum of {7} days. When charging current is used to satisfy specific gravity requirements, specific gravity of each connected cell shall be measured prior to expiration of the {7} day allowance. 1

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS 3.8.6 - BATTERY CELL PARAMETERS

1. The brackets have been removed and the proper plant specific information/value has been provided.

2. The word "values" in the third Condition of Condition B has been changed to "limits" to more closely match the LCO description. In addition, the word "Allowable" in Table 3.8.6-1 has been deleted to be consistent with the manner in which Category C "Limits" are described in the ACTIONS. This will also avoid confusion with the term "Allowable Value" used in the Instrumentation Section.

3. The second and third Frequencies of SR 3.8.6.2 have been modified to require the parameters to be verified within 7 days after the battery discharge/overcharge event, in lieu of the ISTS requirements of 24 hours after the battery discharge/overcharge event. IEEE-450 (the 1980, 1987, and 1995 versions) only require the verification to be performed; it does not state the time limit for performing the verification. Therefore, the time specified in the LaSalle 1 and 2 CTS is being maintained (i.e., this time is consistent with current licensing basis).

4. Typographical/grammatical error corrected.

5. The words "and following" have been added to footnote (a) to allow the electrolyte level to be temporarily above the limit following the equalize charge as well as during the charge. As stated in the Bases for this footnote (in Table 3.8.6-1 description), IEEE-450, Annex A, recommends that electrolyte level readings not be taken until 72 hours after the equalize charge. This allows time for the electrolyte temperature to stabilize and the level reading to be a "true" reading. Without the added words, the limit may not be met upon completion of the charge and unnecessary ACTIONS would have to be taken.

6. The allowance in footnote (b) to not perform a level correction for the specific gravity when charging current is < 2 amps has been deleted, consistent with current licensing basis.

1

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Inverters—Operating

LCO 3.8.7 The [Division 1], [Division 2], and [Division 3] inverters shall be OPERABLE.

---------------------------NOTE---------------------------
[One/two] inverter[s] may be disconnected from [its/their] associated DC bus for ≤ [24] hours to perform an equalizing charge on [its/their] associated [common] battery, provided:

a. The associated AC vital bus[es] [is/are] energized from [its/their] [Class 1E constant voltage transformers] [inverter using internal AC source]; and

b. All other AC vital buses are energized from their associated OPERABLE inverters.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. [Division 1 or 2] inverter inoperable.	A.1 ----------NOTE--------- Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems - Operating" with any AC vital bus de-energized. --------------------------- Restore [Division 1 and 2] inverters to OPERABLE status.	 24 hours

(continued)

1

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
[B. [Division 3] inverter inoperable.	B.1	Declare High Pressure Core Spray System [and 2C Standby Service Water System] inoperable.	Immediately]
C. Required Action and associated Completion Time not met.	C.1	Be in MODE 3.	12 hours
	AND		
	C.2	Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct inverter voltage, [frequency,] and alignment to required AC vital buses.	7 days

1. ISTS 3.8.7, "Inverters—Operating," has been deleted since the current licensing basis does not include inverters. The LaSalle 1 and 2 design does not include the use of an inverter to supply safety related loads or to support safety functions. Therefore, this Specification is not proposed for the LaSalle 1 and 2 ITS.

1

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 Inverters—Shutdown

LCO 3.8.8 Inverter(s) shall be OPERABLE to support the onsite Class 1E AC vital bus electrical power distribution subsystem(s) required by LCO 3.8.10, "Distribution Systems—Shutdown."

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more [required] inverters inoperable.	A.1 Declare affected required feature(s) inoperable. OR A.2.1 Suspend CORE ALTERATIONS. AND A.2.2 Suspend handling of irradiated fuel assemblies in the [primary or secondary] containment. AND A.2.3 Initiate action to suspend operations with a potential for draining the reactor vessel. AND	Immediately Immediately Immediately Immediately

(continued)

1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.4 Initiate action to restore required inverters to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.8.1 Verify correct inverter voltage, [frequency,] and alignments to [required] AC vital buses.	7 days

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ISTS: 3.8.8 - INVERTERS—SHUTDOWN

1. ISTS 3.8.8, "Inverters—Shutdown," has been deleted since the current licensing basis does not include inverters. The LaSalle 1 and 2 design does not include the use of an inverter to supply safety related loads or to support safety functions. Therefore, this Specification is not proposed for the LaSalle 1 and 2 ITS.

<CTS>

3.8 ELECTRICAL POWER SYSTEMS

3.8.~~9~~ 7 Distribution Systems—Operating 1

<LCO 3.8.2.1>
<LCO 3.8.2.3>
<DOC A.4>

LCO 3.8.~~9~~ 7 1

Insert LCO 3.8.7 2

~~[Division 1], [Division 2], and [Division 3] AC, DC, [and AC vital bus] electrical power distribution subsystems shall be OPERABLE.~~

<Appl 3.8.2.1>
<Appl 3.8.2.3>
<DOC M.3>

APPLICABILITY: MODES 1, 2, and 3.

~~-----NOTE-----~~
~~[Division 3] electrical power distribution subsystems are not required to be OPERABLE when High Pressure Core Spray System [and 2C standby service water pump] is inoperable.~~ 3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<3.8.2.1 Act a> A. One ~~[~~Division 1 ~~or~~ and 2~~]~~ 4 2 or both 4 AC electrical power distribution subsystem~~s~~ 5 4 inoperable.	A.1 Restore ~~[~~Division 1 and 2~~]~~ AC electrical power distribution subsystems to OPERABLE status.	8 hours **AND** 16 hours from discovery of failure to meet LCO 3.8.7.a 5
~~B. [Division 1 or 2] AC vital bus inoperable.~~	~~B.1 Restore [Division 1 and 2] AC vital bus distribution subsystems to OPERABLE status.~~	~~2 hours~~ ~~**AND**~~ ~~16 hours from discovery of failure to meet LCO~~ 6

(continued)

<CTS>

Insert LCO 3.8.7

The following electrical power distribution subsystems shall be OPERABLE:

<LCO 3.8.2.1>

a. Division 1 and Division 2 AC and 125 V DC distribution subsystems;

<LCO 3.8.2.3>

b. Division 3 AC and 125 V DC distribution subsystems;

<DOC M.3>

c. Division 1 250 V DC distribution subsystem; and

d. The portions of the opposite unit's Division 2 AC and 125 V DC electrical power distribution subsystems capable of supporting the equipment required to be OPERABLE by LCO 3.6.3.1, "Primary Containment Hydrogen Recombiners," LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Area Filtration (CRAF) System," LCO 3.7.5, "Control Room Area Ventilation Air Conditioning (AC) System," and LCO 3.8.1, "AC Sources—Operating."

⟨CTS⟩

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
[4] One or both [6] 8 ~~C~~. ~~Division 1~~ ~~or 2~~ and [5] 125V [1] DC electrical power distribution subsystem(s) [4] inoperable. [2] ⟨3.8.2.3 Act a⟩	[6] B ~~C~~.1 Restore ~~Division 1 and 2~~ 125V [1] DC electrical power distribution subsystem(s) [4] to OPERABLE status. [2]	2 hours **AND** 16 hours from discovery of failure to meet LCO 3.8.7.a [5]
[7] Insert ACTION C		
⟨3.8.2.1 Act a⟩ ⟨3.8.2.1 Act c⟩ ⟨3.8.2.3 Act a⟩ ⟨3.8.2.3 Act c⟩ D. Required Action and associated Completion Time of Condition A, B, or C not met.	D.1 Be in MODE 3. **AND** D.2 Be in MODE 4.	12 hours 36 hours
[8] both ⟨3.8.2.1 Act b⟩ ⟨3.8.2.3 Act b⟩ E. One or ~~more~~ [2] or ~~Division 3~~ AC ~~DC~~ ~~or AC vital bus~~ [2] electrical power distribution subsystems inoperable.	E.1 Declare ~~High Pressure Core Spray System [and 2C Standby Service Water System]~~ [6] associated supported features inoperable. [8]	Immediately
⟨DOC M.2⟩ ⟨DOC L.1⟩ [7] G ~~F~~. Two or more inoperable electrical power [8] distribution subsystems that result in a loss of function. [8]	[7] G ~~F~~.1 Enter LCO 3.0.3.	Immediately
⟨DOC A.4⟩ [7] F. Division 1 250V DC electrical power subsystem inoperable.	F.1 Declare associated supported features inoperable.	Immediately

<CTS>

Insert ACTION C

C. <3.8.2.1 Act c> <3.8.2.3 Act c>	One or more required opposite unit Division 2 AC or DC electrical power distribution subsystems inoperable.	C.1	Restore required opposite unit Division 2 AC and DC electrical power distribution subsystem(s).	7 days

<CTS>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
1 7 SR 3.8.~~9~~.1	Verify correct breaker alignments and voltage to ~~[required]~~ AC, DC, and ~~[and AC vital bus]~~ electrical power distribution subsystems. 2	7 days

<4.8.2.1>
<4.8.2.3>

1. The proper LCO/SR number has been provided. This change was necessary due to the deletion of ISTS 3.8.7, "Inverters—Operating," and ISTS 3.8.8, "Inverters—Shutdown."

2. The brackets have been removed and the proper plant specific information/value has been provided.

3. The ISTS 3.8.9 LCO Note is not needed and has been deleted. ACTION E states that if Division 3 electrical power distribution subsystem is inoperable, then the HPCS System is to be declared inoperable and the HPCS ACTIONS in LCO 3.5.1 taken. As soon as it is, then the Note states that Division 3 electrical power distribution subsystem is not required to be OPERABLE. Since that is the only reason that the HPCS System is inoperable, then it appears that the HPCS System could be declared OPERABLE again. As soon as this is done, the Note would apply again and HPCS would again be declared inoperable, and ACTIONS of LCO 3.5.1 again required. To alleviate this confusion, and for consistency with LCO 3.8.4, which does not have the Note, this Note has been deleted. Without the Note, when Division 3 electrical power distribution subsystem is inoperable, ACTION E will be entered and appropriate Required Actions taken. In addition, this is consistent with the current licensing basis (CTS 3.8.3.1 does not have this note).

4. NUREG-1434, Rev. 0 was changed by NRC-02 to add new ACTION F to ISTS 3.8.9. This new ACTION required entry into LCO 3.0.3 whenever there were two or more electrical power distribution subsystems inoperable that result in a loss of function. The change also was supposed to add the words "or more" to each of the Conditions that described inoperable AC and DC electrical power distribution subsystems. Thus, if two AC electrical power distribution subsystems were inoperable but did not result in a loss of safety function (e.g., one bus in each division, but the buses are not redundant to one another), the 8 hour or 2 hour restoration time, as applicable, would be allowed to restore both inoperable subsystems. When NUREG-1434, Rev. 1 was issued, only the first part of the change was incorporated; only ACTION F was added. Therefore, this change is being made to be consistent with the original intent of the NRC initiated change. The change was made completely in the BWR/4 ISTS, NUREG-1433, Rev. 1.

5. The second Completion Time for Required Actions A.1 and B.1 have been modified to be consistent with the intent of the ISTS. The second Completion Time is intended to limit the maximum time the LCO is not being met due to inoperable AC or 125 VDC electrical power distribution subsystems. However, LaSalle 1 and 2 has a Division 1 250 VDC distribution bus, which powers RCIC System components. When a 250 VDC electrical power distribution subsystem is inoperable, ACTION F requires the associated supported features to be declared inoperable (RCIC System and associated PCIV). However, after the declaration of inoperability, the ITS 3.8.7 LCO is still not being met (i.e., ACTION F is never exited). If a Division 1 or 2 AC

5. (continued)

or 125 VDC electrical power distribution subsystem is subsequently declared inoperable, the second Completion Time would have started when the Division 1 250 VDC electrical power distribution subsystem was initially inoperable. Thus, the Division 1 or 2 125 VDC inoperability would be unnecessarily restricted; that is, it would not be allowed to be restored within the normal 8 hour or 2 hour Completion Time. In addition the LaSalle 1 and 2 electrical distribution system is designed such that each unit relies on portions of the opposite unit's Division 2 AC and 125 VDC electrical distribution system to support the OPERABILITY of components that are shared by both units (e.g., standby gas treatment). When an opposite unit's Division 2 AC or 125 VDC electrical distribution subsystem that is required to support equipment required to be OPERABLE becomes inoperable, ITS 3.8.7 ACTION C requires the subsystem to be restored within 7 days. The Completion Time is based on the allowable outage time of the supported equipment. Should a Division 1 or 2 AC or 125 VDC electrical power distribution subsystem be declared inoperable, the second Completion Time starts. Should Condition C occur subsequent to a failure to meet the LCO due to Condition A or B, the Completion Time to restore the inoperable portion of the opposite unit's 125 VDC Division 2 subsystem would be unnecessarily restricted; that is, it would not allow the normal 7 day Completion Time for restoration. Neither of these examples were the intent of the second Completion Time. Therefore, the second Completion Time for Required Actions A.1 and B.1 have been modified to only start upon discovery of failure to meet LCO 3.8.7.a, since these are the portions of the LCO that apply to the Division 1 and 2 AC and 125 VDC electrical power distribution subsystems.

6. The bracketed requirement has been deleted because it is not applicable to LaSalle 1 and 2. The following requirement has been renumbered to reflect the deletion.

7. ACTION C has been added to reflect existing requirements for the opposite unit Division 2 AC and DC electrical power distribution subsystems necessary to support opposite unit powered equipment OPERABILITY requirements. In addition ACTION F has been added to reflect existing requirements for the Division 1 250 VDC electrical power subsystem necessary to support the RCIC System and isolation valves. The subsequent ACTIONS have been renumbered as required.

8. Editorial change made for enhanced clarity. There are only two Division 3 electrical power distribution subsystems per unit, one AC and one DC. Further, the HPCS system is not the only "associated supported feature" affected. The more general term is included to ensure all appropriate supported systems (e.g., PCIVs) Conditions and Required Actions are entered.

<CTS>

3.8 ELECTRICAL POWER SYSTEMS

3.8.~~10~~ 8 Distribution Systems—Shutdown

1

<LCO 3.8.2.2>
<LCO 3.8.2.4>

LCO 3.8.~~10~~ 8 1 — The necessary portions of the ~~Division 1,~~ Division 2, and Division 3 AC and DC, ~~[and AC vital bus]~~ electrical power distribution subsystems and the opposite unit Division 2 AC and DC 2 shall be OPERABLE to support equipment required to be OPERABLE.

<Appl 3.8.2.2>
<Appl 3.8.2.4>

APPLICABILITY: MODES 4 and 5,
During movement of irradiated fuel assemblies in the 2 ~~[primary or~~ secondary] containment.

<3.8.2.2 Act d>
<3.8.2.4 Act e>

ACTIONS

NOTE
LCO 3.0.3 is not applicable. 3

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required AC, DC, ~~[or AC vital bus]~~ 2 electrical power distribution subsystems inoperable.	A.1 Declare associated supported required feature(s) inoperable.	Immediately
	OR	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	A.2.2 Suspend ~~handling~~ movement 4 of irradiated fuel assemblies in the 2 ~~[primary or~~ secondary] containment.	Immediately
	AND	
		(continued)

<3.8.2.2 Act a>
<3.8.2.2 Act b>
<3.8.2.2 Act c>
<3.8.2.4 Act a>
<3.8.2.4 Act b>
<3.8.2.4 Act c>

⟨CTS⟩

ACTIONS

⟨3.8.2.2 Act a⟩
⟨3.8.2.2 Act b⟩
⟨3.8.2.2 Act c⟩

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.3 Initiate action to suspend operations with a potential for draining the reactor vessel.	Immediately
	AND	
	A.2.4 Initiate actions to restore ~~{required}~~ AC, DC, ~~{and}~~ ~~AC vital bus~~ electrical power distribution subsystems to OPERABLE status. [2]	Immediately
	AND	
	A.2.5 Declare associated required shutdown cooling subsystem(s) inoperable and not in operation.	Immediately

SURVEILLANCE REQUIREMENTS

⟨4.8.2.2⟩
⟨4.8.2.4.1⟩

SURVEILLANCE	FREQUENCY
SR 3.8.~~10~~ 8 [1].1 Verify correct breaker alignments and voltage to ~~{required}~~ AC, DC, ~~{and}~~ ~~AC vital bus~~ electrical power distribution subsystems.	7 days [2]

1. The proper LCO/SR number has been provided. This change was necessary due to the deletion of ISTS 3.8.7, "Inverters—Operating," and ISTS 3.8.8, "Inverters—Shutdown."

2. The brackets have been removed and the proper plant specific information/value has been provided.

3. The ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in Mode 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in Mode 1, 2, or 3, the fuel movement is independent of reactor operations. This clarification is necessary because defaulting to LCO 3.0.3 during irradiated fuel assembly movement in Mode 1, 2, or 3 would require the reactor to be shutdown, but would not require suspension of movement of irradiated fuel assemblies. Therefore, the proposed Note ensures that proper actions are taken when moving irradiated fuel assemblies in Mode 1, 2, or 3 (i.e., LCO 3.0.3 is not applicable and cannot be used in lieu of suspending fuel movement as required by the ACTIONS of the LCO). This change is also consistent with TSTF-36, Rev. 4 and the CTS.

4. The word "handling" has been replaced with "movement" for consistency with other places in the TS where this Required Action appears.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.1 AC Sources—Operating

BASES

BACKGROUND

The unit Class 1E AC Electrical Power Distribution System AC sources consist of the offsite power sources and the onsite standby power sources (diesel generators (DGs) ~~2A, 2C, and 1B~~). As required by 10 CFR 50, Appendix A, GDC 17 (Ref. 1), the design of the AC electrical power system provides independence and redundancy to ensure an available source of power to the Engineered Safety Feature (ESF) systems. 1

1 Insert BKGD-A 2 7

The Class 1E AC distribution system (Divisions 1, 2, and 3) supplies electrical power to three divisional load groups~~,~~ with each division powered by an independent Class 1E 4.16 kV ~~ESF~~ emergency bus (refer to LCO 3.8.~~9~~ 7, "Distribution Systems—Operating"). 1 ~~Each ESF bus has three separate and independent offsite sources of power. Each ESF bus has a dedicated onsite DG.~~ The ESF systems of any two of the three divisions provide for the minimum safety functions necessary to shut down the unit and maintain it in a safe shutdown condition.

1 Insert BKGD-B

Offsite power is supplied to the switchyard from the transmission network. From the switchyard two electrically and physically separated circuits provide AC power to ~~each 4.16 kV ESF bus. A 115 kV power source provides a third completely independent circuit.~~ the unit onsite Class 1E 4.16 kV emergency buses 1 The offsite AC electrical power sources are designed and located so as to minimize to the extent practical the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. A detailed description of the offsite power network and circuits to the onsite Class 1E 4.16 kV 1 3 [~~ESF~~ emergency buses] is found in the (4) 1 FSAR, Chapter [8] 3 (Ref. 2).

1 qualified

A~~n~~ qualified offsite circuit consists of all breakers, transformers, switches, interrupting devices, cabling, and controls required to transmit power from the offsite transmission network to the [onsite Class 1E ~~ESF~~ emergency bus(es)]. 3

~~Certain required plant loads are returned to service in a predetermined sequence in order to prevent overloading the transformer supplying offsite power to the onsite Class 1E Distribution System. Within [1 minute] after the initiating signal is received, all automatic and permanently connected~~ 1

(continued)

Insert BKGD-A

The Division 2 emergency bus associated with each unit is shared by each unit since some systems are common to both units. The opposite unit Division 2 emergency bus supports equipment required to be OPERABLE by LCO 3.6.3.1, "Primary Containment Hydrogen Recombiners," LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Area Filtration (CRAF) System," and LCO 3.7.5, "Control Room Area Ventilation Air Conditioning (AC) System." Division 1 and 2 emergency buses have access to two offsite power supplies (one normal and one alternate). The alternate offsite power source is normally supplied via the opposite unit system auxiliary transformer (SAT) and the opposite unit circuit path. The alternate offsite circuit path includes the associated opposite unit's 4.16 kV emergency bus, unit tie breakers, and associated interconnecting bus to the given unit's 4.16 kV emergency bus. Division 3 load group has access to one offsite power supply (respective unit's SAT). Division 2 and 3 emergency buses on each unit have a dedicated onsite DG. The Division 1 emergency bus of both units share a common DG.

Insert BKGD-B

The unit SAT provides the normal source of offsite power to the respective unit's Division 1, 2, and 3 4.16 kV emergency buses. In the event of a loss of the unit SAT, the Division 1 and 2 emergency buses fast transfer to the UAT (which is connected to the main generator output). The UAT is rated to carry all onsite power to the unit, but is not considered an offsite source unless it is being backfed with the main generator disconnect links removed. The Division 3 emergency bus has no second offsite power source, and will automatically be supplied by the Division 3 DG after the bus is deenergized. The Division 1 and 2 emergency buses can be manually transferred to the alternate offsite power source through the unit ties on a dead bus transfer or on a live bus transfer if the DG is supplying power to the bus.

Onsite standby power is provided by a total of five DGs for both units.

BASES

emergency

BACKGROUND (continued)

~~loads needed to recover the unit or maintain it in a safe condition are returned to service via the load sequencer.~~ 1

Division 2 and 3

The onsite standby power source for each 4.16 kV ~~ESF~~ bus on each unit is a dedicated DG. ~~A DG starts automatically on loss of coolant accident (LOCA) signal (i.e., low reactor water level signal or high drywell pressure signal) or on an ESF bus degraded voltage or undervoltage signal (refer to LCO 3.3.8.1, "Loss of Power (LOP) Instrumentation").~~ 1

Insert BKGD-C

In the event of a loss of ~~preferred~~ offsite power, the ESF electrical loads are automatically connected to the DGs as required in sufficient time to provide for safe reactor shutdown and to mitigate the consequences of a Design Basis Accident (DBA) such as a loss of coolant accident ~~LOCA~~. 1 4

Insert BKGD-D

~~Certain required plant loads are returned to service in a predetermined sequence in order to prevent overloading the DG. For Divisions 1 and 2, the automatic diesel start and the power from normal to emergency power supplies is controlled by the Load Shedding and Sequencing (LSS) System. The LSS circuits actuate on loss of offsite power or LOCA signal. The system starts the DGs and, if an undervoltage exists on a Division 1 or 2 bus, it sheds nonvital loads from the affected bus and then sequentially starts the vital loads. The Division 3 bus has no shedding or sequencing.~~ 1

Insert BKGD-E

emergency 1

~~Ratings for DGs satisfy the requirements of Regulatory Guide 1.9 (Ref. 3). The continuous service rating is 7000 kW for Divisions 1 and 2 and is 3300 kW for Division 3, with 10% overload permissible for up to 2 hours in any 24 hour period.~~ 1

APPLICABLE SAFETY ANALYSES 1 (u)

The initial conditions of DBA and transient analyses in the FSAR, Chapter ~~[6]~~ (Ref. 4) and Chapter ~~[15]~~ (Ref. 5), assume ESF systems are OPERABLE. The AC electrical power sources are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to ESF systems so that the fuel, Reactor Coolant System (RCS), and containment design limits are not exceeded. These limits are discussed in more detail in the Bases for Section 3.2, Power Distribution Limits; 3

(continued)

Insert BKGD-C

(DGs 1A and 1B for Unit 1 and DGs 2A and 2B for Unit 2). The onsite standby power source for the Division 1 emergency bus on each unit is a common DG (DG 0). Each DG will start on emergency bus degraded voltage or undervoltage from its associated 4.16 kV emergency bus (refer to LCO 3.3.8.1, "Loss of Power (LOP) Instrumentation"). The Division 2 and 3 DGs will start on an Emergency Core Cooling System (ECCS) actuation signal (reactor vessel low water level or high drywell pressure) from the respective unit. The Division 1 DG (common DG) will start on an ECCS actuation signal (reactor vessel low water level or high drywell pressure) from either unit. Although the DGs start on an ECCS actuation signal from the respective unit, the DGs are not connected to the 4.16 kV emergency bus unless an undervoltage condition occurs on the bus.

Insert BKGD-D

If an undervoltage condition occurs on a Division 1 or 2 emergency bus, the associated DG starts, bus loads are shed, the DG will automatically connect to the emergency bus, and loads necessary for safe shutdown of the unit are connected automatically or manually. If an ECCS actuation signal is present concurrent with an undervoltage condition on the Division 1 or 2 emergency bus, the associated DG starts, bus loads are shed as required, the DG will automatically connect to the emergency bus, and the required ESF loads are automatically connected. Sequencing of Division 1 and 2 emergency loads is accomplished by time delay relays so that overloading of the DG is prevented.

Insert BKGD-E

The DGs satisfy the following Regulatory Guide 1.9 (Ref. 3) ratings:

a. 2600 kW - continuous;

b. 2860 kW - 2000 hour;

c. 2987 kW - 7 day;

d. 2860 kW - 2 hours in any 24 hour period (10% overload); and

e. 3040 kW - 30 minute.

BASES

7 Emergency Core Cooling System (ECCS) and Reactor Core Isolation Cooling (RCIC) System 5

APPLICABLE SAFETY ANALYSES (continued)

Section 3.~~6~~, ~~Reactor Coolant System (RCS)~~; and Section 3.6, Containment Systems.

The OPERABILITY of the AC electrical power sources is consistent with the initial assumptions of the accident analyses and is based upon meeting the design basis of the unit. This includes maintaining the onsite or offsite AC sources OPERABLE during accident conditions in the event of:

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

b. A worst case single failure.

AC sources satisfy the requirements of Criterion 3 of ~~the NRC Policy Statement~~. 10 CFR 50.36(c)(2)(ii) 1

LCO

Two qualified circuits (normal and alternate) 1 between the offsite transmission network and the onsite Class 1E Distribution System (i.e, the unit Division 1, 2, and 3 4.16 kV emergency buses and the opposite unit Division 2 4.16 kV emergency bus) 1, ~~and~~ three separate and independent unit 5 DGs ~~(11, 12, and 13)~~ Insert LCO-A 5 ensure availability of the required power to shut down the reactor and maintain it in a safe shutdown condition after an anticipated operational occurrence (AOO) or a postulated DBA.

Qualified offsite circuits are those that are described in the U 1 FSAR and are part of the licensing basis for the unit.

~~In addition, [one required automatic load sequencer per ESF bus] shall be OPERABLE. In general, Division 3 does not have a load sequencer since it has only one large load (i.e., the high pressure core spray (HPCS) pump). In such cases the LCO should refer to the Division 1 and 2 sequencers only.~~ 6

Each offsite circuit must be capable of maintaining rated frequency and voltage, and accepting required loads during an accident, while connected to the emergency 1 ~~ESF~~ buses. 1 Insert LCO-B ~~Each offsite circuit consists of incoming breaker and disconnect to the respective service transformers 11 and 21, the 11 and 21 service transformers, the ESF transformers 11 and 21,~~ and the respective circuit path including feeder breakers to the 1 required Division 1 and 2 emergency 4.16 kV ~~ESF~~ buses.

(continued)

Insert LCO-A

, and the opposite unit's DG capable of supporting the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem to power the equipment required to be OPERABLE by LCO 3.6.3.1, LCO 3.6.4.3, LCO 3.7.4, and LCO 3.7.5.

Insert LCO-B

For the normal offsite circuit, the OPERABLE qualified offsite circuit consists of the required incoming breaker(s) and disconnects from the 345 kV switchyard to and including the SAT, the respective circuit path to and including the feeder breakers to the required Division 1, 2, and 3 4.16 kV emergency buses.

For the alternate offsite circuit, the OPERABLE qualified offsite circuit consists of the required incoming breaker(s) and disconnects from the 345 kV switchyard to and including the SAT or UAT (backfeed mode), to and including the opposite unit 4.16 kV emergency bus, the opposite unit circuit path to and including the unit tie breakers (breakers 1414, 1424, 2414, 2424),

BASES

LCO (continued)

Each DG must be capable of starting, accelerating to rated speed and voltage, and connecting to its respective ESF bus on detection of bus undervoltage. This sequence must be ~~accomplished within 10~~ 13 seconds. Each DG must also be capable of accepting required loads within the assumed loading sequence intervals, and must continue to operate until offsite power can be restored to the ~~ESF~~ 4.16kV emergency buses. These capabilities are required to be met from a variety of initial conditions such as DG in standby with engine hot and DG in standby with engine at ambient conditions. Additional DG capabilities must be demonstrated to meet required Surveillances, e.g., capability of the ~~DG~~ Division 1 and 2 DGs to revert to standby status on an ECCS signal while operating in parallel test mode.

1 1 4

Proper sequencing of loads, including tripping of nonessential loads, is a required function for DG OPERABILITY.

Insert LCO-C 1

1 Insert LCO-D

The AC sources in one division must be separate and independent (to the extent possible) of the AC sources in the other division(s). For the DGs, the separation and independence are complete. For the offsite AC sources, the separation and independence are to the extent practical.

APPLICABILITY

The AC sources ~~and sequencers~~ are required to be OPERABLE in MODES 1, 2, and 3 to ensure that: 1

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 OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

5 ~~A~~ 1 Note has been added taking exception to the Applicability requirements for Division 3 sources, provided the High Pressure Core Spray (HPCS) System is declared inoperable. This exception is intended to allow declaring of the Division 3 inoperable either in lieu of declaring the Division 3 source inoperable, or at any time subsequent to entering ACTIONS for an inoperable Division 3 source. This exception is acceptable since, with the Division 3 inoperable and the associated ACTIONS 4

(continued)

Insert LCO-C

The opposite unit's DG must be capable of starting, accelerating to rated speed and voltage, and connecting to the opposite unit's Division 2 Class 1E AC electrical power distribution subsystem on detection of bus undervoltage. This sequence must be accomplished within 13 seconds and is required to be met from the same variety of initial conditions specified for the unit DGs.

Insert LCO-D

A qualified circuit may be connected to all divisions of either unit, with manual transfer capability to the other circuit OPERABLE, and not violate separation criteria. A qualified circuit that is not connected to the 4.16 kV emergency buses is required to have OPERABLE manual transfer capability (from the control room) to the associated 4.16 kV emergency buses to support OPERABILITY of that qualified circuit.

BASES

APPLICABILITY (continued)

entered, the Division 3 AC sources provide no additional assurance of meeting the above criteria.

5 Insert Applicability

AC power requirements for MODES 4 and 5 and other conditions in which AC sources are required are covered in LCO 3.8.2, "AC Sources—Shutdown." 8

ACTIONS

A.1

To ensure a highly reliable power source remains, it is necessary to verify the availability of the remaining required offsite circuits on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in the Required Action not met. However, if a second required circuit fails SR 3.8.1.1, the second offsite circuit is inoperable, and Condition ~~C~~ D 5, for two required 12 offsite circuits inoperable, is entered.

A.2

Required Action A.2, which only applies if the division cannot be powered from an offsite source, is intended to provide assurance that an event with a coincident single failure of the associated DG does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related divisions (i.e., single division systems are not included, although, for this Required Action, Division 3 (HPCS System) 1 is considered redundant to Division 1 and 2 ~~Emergency Core Cooling Systems (ECCS)~~ 4). Redundant required ~~features~~ failures consist of inoperable features associated with a division redundant to the division that has no offsite power available 4.

The Completion Time for Required Action A.2 is intended to allow time for the operator to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

a. The division has no offsite power available 4 supplying its loads; and

(continued)

Insert Applicability

Note 2 has been added taking exception to the Applicability requirements for the required opposite unit's Division 2 DG in LCO 3.8.1.c, provided the associated required equipment is inoperable (i.e., one SGT subsystem, one primary containment hydrogen recombiner subsystem, one control room area filtration subsystem, and one control room area ventilation air conditioning subsystem). This exception is intended to allow declaring the opposite unit's Division 2 supported equipment inoperable either in lieu of declaring the opposite unit's Division 2 DG inoperable, or at any time subsequent to entering ACTIONS for an inoperable opposite unit Division 2 DG. This exception is acceptable since, with the opposite unit powered Division 2 equipment inoperable and the associated ACTIONS entered, the opposite unit Division 2 DG provides no additional assurance of meeting the above criteria.

BASES

ACTIONS

A.2 (continued)

redundant 4 an 1

b. A required feature on ~~the~~ other division is inoperable.

If, at any time during the existence of this Condition (one offsite circuit inoperable), a required feature subsequently becomes inoperable, this Completion Time begins to be tracked.

required 12

redundant 4 available

Discovering no offsite power to one division of the onsite Class 1E Power Distribution System coincident with one or more inoperable required support or supported features, or both, that are associated with the other division that has offsite power, results in starting the Completion Time~~s~~ for the Required Action. Twenty-four hours is acceptable because it minimizes risk while allowing time for restoration before the unit is subjected to transients associated with shutdown. 9

The remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to the onsite Class 1E Distribution System. Thus, on a component basis, single failure protection may have been lost for the required feature's function; however, function is not lost. The 24 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 24 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

A.3

~~According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition A for a period that should not exceed 72 hours.~~

~~This Completion Time assumes sufficient offsite power remains to power the minimum loads needed to respond to analyzed events. In the event more than one division is without offsite power, this assumption is not met. Therefore, the optional Completion Time is specified. Should two or more divisions be affected, the 24 hour Completion Time is conservative with respect to the~~ 5

(continued)

BASES

ACTIONS

A.3 (continued)

~~Regulatory Guide assumptions supporting a 24 hour Completion Time for both offsite circuits inoperable.~~ With one required offsite circuit inoperable, the reliability of the offsite system is degraded, and the potential for a loss of offsite power is increased, with attendant potential for a challenge to the plant safety systems. In this condition, however, the remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to the onsite Class 1E distribution system. 5 12 3 4

5 7 day

The 7 day Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and the low probability of a DBA occurring during this period.

second 5

The ~~third~~ second Completion Time for Required Action A.3 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, the common DG is inoperable and that DG is subsequently returned OPERABLE, the LCO may already have been not met for up to ~~72 hours~~ 7 days. This situation could lead to a total of ~~144 hours~~ 14 days, since initial failure to meet the LCO, to restore the offsite circuit. At this time, a unit DG could again become inoperable, the circuit restored OPERABLE, and an additional 72 hours (for a total of 10 days) allowed prior to complete restoration of the LCO. The 17 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet LCO 3.8.1.a or b. This limit is considered reasonable for situations in which Conditions ~~A and B~~ are entered concurrently for combinations of Conditions A, B, and C. The "AND" connector between the 72 hour and 10 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive must be met.

for preplanned maintenance

5 1 5 5 5 5 5 5 4

Similar to ~~As in~~ Required Action A.2, the Completion Time of Required Action A.3 allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This exception results in establishing the "time zero" at the time LCO 3.8.1.a or b was initially not met, instead of at the time that Condition A was entered. 4 5

(continued)

BASES

ACTIONS (continued)

5 C ~~B~~.1

5 Insert Action B

To ensure a highly reliable power source remains, it is necessary to verify the availability of the remaining required offsite circuit on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in a Required Action being not met. However, if a circuit fails to pass SR 3.8.1.1, it is inoperable. Upon offsite circuit inoperability, additional Conditions must then be entered.

5 C ~~B~~.2

Required Action ~~B~~ C 5 .2 is intended to provide assurance the DG(s) are 5 that a loss of offsite power, during the period that ~~a DG is~~ inoperable as described in Condition C 5, does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related divisions (i.e., single division systems are not included, although, for this Required Action, Division 3 (HPCS System) 1 is considered redundant to Division 1 and 2 ~~Emergency Core Cooling Systems (~~ECCS~~)~~). 4 Redundant required features failures consist of inoperable features associated with a division redundant to the division that has an inoperable DG.

The Completion Time is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

a. An inoperable DG exists; and

b. A redundant required feature on another division is inoperable.

If, at any time during the existence of this Condition (~~one DG~~ DG(s) 5 inoperable), a redundant 4 required feature subsequently becomes inoperable, this Completion Time begins to be tracked. as described in Condition C 5

Discovering ~~one~~ required DG(s) inoperable coincident with one or more redundant required support or supported features, or both, that are associated with the redundant 4 OPERABLE DG(s), results in starting the Completion Time for the Required Action. Four 5

(continued)

Insert ACTION B

B.1

Condition B provides appropriate compensatory measures to allow performance of pre-planned maintenance or testing on the common DG. Pre-planned maintenance or testing includes preventative maintenance, modifications, and performance of Surveillance Requirements. The Note effectively only allows Condition B to be used for the common DG when the opposite unit is not in MODE 1, 2, or 3. When the common DG becomes inoperable while both units are in MODE 1, 2, or 3, Condition C must be entered for both units and the associated Required Actions performed.

Required Action B.1 is intended to provide assurance that a loss of offsite power, during the period that the common DG or its supported equipment is inoperable for the purposes of completing pre-planned maintenance, modifications, or Surveillance Requirements, does not result in a complete loss of safety function of critical systems. This is accomplished by making an additional source available to support the unit and opposite unit Division 2 emergency buses. This additional source is the unit or opposite unit Division 2 DG. To ensure this alternate highly reliable power source is available during operation in Condition B, it is necessary to temporarily modify the control circuit for the unit crosstie circuit breakers between 4.16 kV emergency buses 142Y and 242Y to allow the breakers to be closed with a DG powering one of the Division 2 emergency buses (142Y or 242Y) so that the unit or opposite unit Division 2 DG can supply the unit and opposite unit Division 2 emergency buses. Therefore, the unit or opposite unit Division 2 DG must be OPERABLE with the capability to be manually aligned to the unit and opposite unit Division 2 emergency buses. The Completion Time ensures the alternate source to the Division 2 emergency buses is available whenever the plant is operating in Condition B. If Required Action B.1 and the associated Completion Time are not met, Condition C must the entered and the Required Actions taken.

B.2

To ensure a highly reliable power source remains, it is necessary to verify the availability of the remaining required offsite circuits on a more frequent basis. Since the Required Action only specifies "perform," a failure to meet SR 3.8.1.1 acceptance criteria does not result in a Required Action being not met. However, if a circuit fails to pass SR 3.8.1.1, it is inoperable. Upon offsite circuit inoperability, additional Conditions must then be entered.

Insert ACTION B (continued)

B.3

Required Action B.3 is intended to provide assurance that a loss of offsite power, during the period that the common DG is inoperable for purposes of completing pre-planned maintenance, modifications, or Surveillance Requirements on the common DG or its support systems, does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related divisions (i.e., single division systems are not included, although for this Required Action, Division 3 (HPCS) is considered redundant to Division 1 and Division 2 ECCS). Redundant required feature failures consist of inoperable features associated with a division redundant to the division that has an inoperable DG.

The Completion Time is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

a. An inoperable common DG exists; and

b. A redundant required feature on another division is inoperable.

If, at any time during the existence of this Condition (the common DG inoperable due to pre-planned maintenance, modification, or testing), a redundant required feature subsequently becomes inoperable, this Completion Time begins to be tracked.

Discovering the common DG inoperable coincident with one or more redundant required support or supported features, or both, that are associated with the redundant OPERABLE DG(s), results in starting the Completion Time for the Required Action. Four hours from the discovery of these events existing concurrently is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown.

The remaining OPERABLE DGs and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. Thus, on a component basis, single failure protection for the required feature's function may have been lost; however, function has not been lost. The 4 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 4 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and low probability of a DBA occurring during this period.

Insert ACTION B (continued)

B.4

One common DG provides onsite standby power to the Division 1 emergency buses on both units. This Required Action provides a 7 day time period to perform pre-planned maintenance or testing on the common DG while precluding the shutdown of both units. Pre-planned maintenance or testing includes preventative maintenance, modifications, and performance of Surveillance Requirements. The Note to Condition B effectively only allows the 7 day Completion Time to be used for the common DG when the opposite unit is not in MODE 1, 2, or 3. When the common DG becomes inoperable while both units are in MODE 1, 2, or 3, Condition C must be entered for both units and the associated Required Actions performed. The 4.16 kV emergency bus design is sufficient to allow operation to continue in Condition B for a period that should not exceed 7 days. In Condition B, the remaining OPERABLE DGs and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. The 7 day Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and low probability of a DBA occurring during this period.

The second Completion Time for Required Action B.4 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet LCO 3.8.1.a or b. If Condition B is entered while, for instance, an offsite circuit is inoperable and that circuit is subsequently restored OPERABLE, the LCO may already have been not met for up to 7 days. This situation could lead to a total of 14 days, since initial failure of the LCO, to restore the DG. At this time, an offsite circuit could again become inoperable, the DG restored OPERABLE, and an additional 7 days (for a total of 21 days) allowed prior to complete restoration of the LCO. The 10 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet LCO 3.8.1.a or b. This limit is considered reasonable for situations in which Conditions are entered concurrently for combinations of Conditions A, B, and C. The "AND" connector between the 7 day and 10 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive must be met.

Similar to Required Action B.3, the Completion Time of Required Action B.4 allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This exception results in establishing the "time zero" at the time LCO 3.8.1.a or b was initially not met, instead of the time that Condition B was entered.

BASES

ACTIONS 5 C ~~B~~.2 (continued)

hours from the discovery of these events existing concurrently is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown.

The remaining OPERABLE DGs and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. Thus, on a component basis, single failure protection for the required feature's function may have been lost; however, function has not been lost. The 4 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 4 hour Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and low probability of a DBA occurring during this period.

5 C ~~B~~.3.1 and ~~B~~.3.2 C 5

Required Action ~~B~~.3.1 provides an allowance to avoid unnecessary testing of OPERABLE DGs. If it can be determined that the cause of the inoperable DG (s) does not exist on the OPERABLE DG, SR 3.8.1.2 does not have to be performed. If the cause of inoperability exists on other DGs, the other DGs are declared inoperable upon discovery, and Condition ~~E~~ F or H of LCO 3.8.1 is entered, as applicable. Once the failure is repaired, and the common cause failure no longer exists, Required Action ~~B~~ C.3.1 is satisfied. If the cause of the initial inoperable DG cannot be confirmed not to exist on the remaining DG(s), performance of SR 3.8.1.2 suffices to provide assurance of continued OPERABILITY of those DG(s). 5 10 5 4 5

In the event the inoperable DG(s) is restored to OPERABLE status prior to completing either ~~B~~.3.1 or ~~B~~.3.2, the ~~plant~~ station corrective action program will continue to evaluate the common cause possibility. This continued evaluation, however, is no longer under the 24 hour constraint imposed while in Condition ~~B~~ C. 5 C 3 5 3

According to Generic Letter 84-15 (Ref. 7), 24 hours is reasonable time to confirm that the OPERABLE DG(s) are not affected by the same problem as the inoperable DG. 3

(continued)

BASES

ACTIONS (continued)

C B.4 5

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition B for a period that should not exceed 72 hours. In Condition B, the remaining OPERABLE DGs and offsite circuits are adequate to supply electrical power to the onsite Class 1E distribution system. The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and low probability of a DBA occurring during this period.

14 this C 5

The second Completion Time for Required Action B.4 established a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet ~~the LCO~~. If Condition B is entered while, for instance, ~~an offsite circuit~~ is inoperable and that ~~circuit~~ is subsequently restored OPERABLE, the LCO may already have been not met for up to ~~72 hours~~. This situation could lead to a total of ~~144 hours~~, since initial failure to meet the LCO, to restore the DG. At this time, an offsite circuit could ~~again~~ become inoperable, the DG restored OPERABLE, and an additional ~~72 hours~~ (for a total of 9 days) allowed prior to complete restoration of the LCO. The 6 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet ~~the~~ LCO. This limit is considered reasonable for situations in which Conditions ~~A and B~~ are entered concurrently. The "AND" connector between the 72 hour and 6 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.

C 5 due to pre-planned maintenance C 3.8.1.a or b DG the common DG 7 days unit 10 days 17 10 for combinations of Conditions A, B, and C 3.8.1.a or b 10 5

4 Similar to C 5 of Required Action C.4 4

~~As in~~ Required Action B.2, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This exception results in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition B was entered.

C 5

5 D.1 and D.2 D 5

Required Action D.1 addresses actions to be taken in the event of concurrent failure of redundant required features. Required Action D.1 reduces the vulnerability to a loss of

D 5

(continued)

BASES

ACTIONS 5

D.1 and D.2 (continued)

function. The Completion Time for taking these actions is reduced to 12 hours from that allowed with only one division without offsite power (Required Action A.2). The rationale for the reduction to 12 hours is that Regulatory Guide 1.93 (Ref. 6) allows a Completion Time of 24 hours for two required offsite circuits inoperable, based upon the assumption that two complete safety divisions are OPERABLE. When a concurrent redundant required feature failure exists, this assumption is not the case, and a shorter Completion Time of 12 hours is appropriate. These features are designed with redundant safety related divisions (i.e., single division systems are not included in the list, although, for this Required Action, Division 3 (HPCS System) is considered redundant to Division 1 and 2 ECCS). Redundant required features failures consist of any of these features that are inoperable, because any inoperability is on a division redundant to a division with inoperable offsite circuits. 1

The Completion Time for Required Action D.1 is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both: 5

a. ~~All~~ Two required offsite circuits are inoperable; and 12

b. A redundant required feature is inoperable. 4

If, at any time during the existence of this Condition (two offsite circuits inoperable), a redundant required feature subsequently becomes inoperable, this Completion Time begins to be tracked.

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition D 5 for a period that should not exceed 24 hours. This level of degradation means that the offsite electrical power system ~~does~~ may not have the capability to effect a safe shutdown and to mitigate the effects of an accident; however, the onsite AC sources have not been degraded. This level of degradation generally corresponds to a total loss of the immediately accessible offsite power sources. 4

(continued)

BASES

ACTIONS 5 D.1 and D.2 (continued)

Because of the normally high availability of the offsite sources, this level of degradation may appear to be more severe than other combinations of two AC sources inoperable that involve one or more DGs inoperable. However, two factors tend to decrease the severity of this degradation level:

a. The configuration of the redundant AC electrical power system that remains available is not susceptible to a single bus or switching failure; and

b. The time required to detect and restore an unavailable offsite power source is generally much less than that required to detect and restore an unavailable onsite AC source.

12 two

With ~~both~~ of the required offsite circuits inoperable, sufficient onsite AC sources are available to maintain the unit in a safe shutdown condition in the event of a DBA or transient. In fact, a simultaneous loss of offsite AC sources, a LOCA, and a worst case single failure were postulated as a part of the design basis in the safety analysis. Thus, the 24 hour Completion Time provides a period of time to effect restoration of one of the offsite circuits commensurate with the importance of maintaining an AC electrical power system capable of meeting its design criteria.

According to Regulatory Guide 1.93 (Ref. 6), with the available offsite AC sources two less than required by the LCO, operation may continue for 24 hours. If two offsite sources are restored within 24 hours, unrestricted operation may continue. If only one offsite source is restored within 24 hours, power operation continues in accordance with Condition A.

5 E.1 and E.2

Pursuant to LCO 3.0.6, the Distribution System ACTIONS would not be entered even if all AC sources to it were inoperable, resulting in de-energization. Therefore, the Required Actions of Condition E are modified by a Note to indicate that when Condition E is entered with no AC source to any

5

(continued)

BASES

ACTIONS 5 D.1 and D.2 (continued) E

division; Actions for LCO 3.8.8, "Distribution Systems—Operating," must be immediately entered. This allows Condition D to provide requirements for the loss of the offsite circuit and one DG without regard to whether a division is de-energized. LCO 3.8.8 provides the appropriate restrictions for a de-energized division.

4 (i.e, the division is de-energized) 5 required an required unit E 5 7 2

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition D for a period that should not exceed 12 hours. In Condition D, individual redundancy is lost in both the offsite electrical power system and the onsite AC electrical power system. Since power system redundancy is provided by two diverse sources of power, however, the reliability of the power systems in this Condition may appear higher than that in Condition C (loss of both required offsite circuits). This difference in reliability is offset by the susceptibility of this power system configuration to a single bus or switching failure. The 12 hour Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and low probability of a DBA occurring during this period.

D 5

5 F E.1 required unit 5 or with both required Division 2 DGs inoperable 5

no more than two 1

With two DGs inoperable, there is one remaining standby AC source. Thus, with an assumed loss of offsite electrical power, insufficient standby AC sources are available to power the minimum required ESF functions. Since the offsite electrical power system is the only source of AC power for the majority of ESF equipment at this level of degradation, the risk associated with continued operation for a very short time could be less than that associated with an immediate controlled shutdown (the immediate shutdown could cause grid instability, which could result in a total loss of AC power). Since any inadvertent generator trip could also result in a total loss of offsite AC power, however, the time allowed for continued operation is severely restricted. The intent here is to avoid the risk associated with an immediate controlled shutdown and to minimize the risk associated with this level of degradation.

1 S may not be

(continued)

BASES

ACTIONS 5 F B.1 (continued) 5 Division 1 and 2 unit

According to Regulatory Guide 1.93 (Ref. 6), with ~~both~~ DGs inoperable, operation may continue for a period that should not exceed 2 hours. This Completion Time assumes complete loss of onsite (DG) AC capability to power the minimum loads needed to respond to analyzed events. In the event 5 the unit Division 3 DG in conjunction with a unit Division 1 or 2 DG is inoperable, with Division 1 or 2 remaining, a significant DG 4 spectrum of breaks would be capable of being responded to with onsite power. Even the worst case event would be mitigated to some extent—an extent greater than a typical two division design in which this condition represents complete loss of onsite power function. Given the remaining 5 72 function, a 24 hour Completion Time is appropriate. At the 5 the unit end of this 24 hour period, Division 3 systems could be (HPCS System) declared inoperable (see Applicability Note 1) and this 5 Condition could be exited with only one required DG 4 remaining inoperable. However, with a Division 1 or 2 DG unit 5 remaining inoperable and the HPCS declared inoperable, a redundant required feature failure exists, according to System 4 Required Action ~~B.2~~ B.3 or C.2 5.

5 Insert ACTION F 6

[F.1

The sequencer(s) is an essential support system to [both the offsite circuit and the DG associated with a given ESF bus.] [Furthermore, the sequencer(s) is on the primary success path for most major AC electrically powered safety systems powered from the associated ESF bus.] Therefore, loss of an [ESF bus's sequencer] affects every major ESF system in the [division]. The [12] hour Completion Time provides a period of time to correct the problem commensurate with the importance of maintaining sequencer OPERABILITY. This time period also ensures that the probability of an accident requiring sequencer OPERABILITY occurring during periods when the sequencer is inoperable is minimal.

This Condition is preceded by a Note that allows the Condition to be deleted if the plant design is such that any sequencer failure mode only affects the ability of the associated DG to power its respective safety loads under any conditions. Implicit in this Note is the concept that the Condition must be retained if any sequencer failure mode results in the inability to start all or part of the safety]

(continued)

Insert ACTION F

In the event the required opposite unit Division 2 DG is inoperable in conjunction with a unit Division 2 DG inoperable, the opposite unit Division 2 subsystems (e.g., SGT subsystem) could be declared inoperable at the end of the 2 hour Completion Time (see Applicability Note 2) and this Condition could be exited with only one required unit DG remaining inoperable. However, with the given unit Division 2 DG remaining inoperable and the opposite unit Division 2 subsystems declared inoperable, redundant required feature failures exist, according to Required Action C.2.

BASES

ACTIONS

6

~~F.1 (continued)~~

~~loads when required, regardless of power availability, or results in overloading the offsite power circuit to a safety bus during an event thereby causing its failure. Also implicit in the Note is the concept that the Condition is not applicable to any Division that does not have a sequencer [Division 3 does not normally have a sequencer in the circuitry].~~

G.1 and G.2

6 If the inoperable AC electrical power sources ~~[and sequencers]~~ cannot be restored to OPERABLE status within the associated 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 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.

H.1

Condition H corresponds to a level of degradation in which all redundancy in the AC electrical power supplies has been lost. At this severely degraded level, any further losses in the AC electrical power system will cause a loss of function. Therefore, no additional time is justified for continued operation. The unit is required by LCO 3.0.3 to commence a controlled shutdown.

SURVEILLANCE REQUIREMENTS

The AC sources are designed to permit inspection and testing of all important areas and features, especially those that have a standby function, in accordance with 10 CFR 50, GDC 18 (Ref. 8). Periodic component tests are supplemented by extensive functional tests during refueling outages under simulated accident conditions. The SRs for demonstrating the OPERABILITY of the DGs are ~~in accordance~~ Consistent 1 with the recommendations of Regulatory Guide 1.9 (Ref. 3), ~~Regulatory Guide 1.108 (Ref. 9),~~ and Regulatory Guide 1.137 1 (Ref. ~~10~~ 9). 1

5 Insert SR Notes

(continued)

Insert SR Notes

The Surveillances are modified by two Notes to clearly identify how the Surveillances apply to the given unit and opposite unit's Division 2 DG. Note 1 states that SR 3.8.1.1 through SR 3.8.1.20 are applicable only to the given unit AC electrical power sources and Note 2 states that SR 3.8.1.21 is applicable to the opposite unit's Division 2 DG. These Notes are necessary since the opposite unit AC electrical power source is not required to meet all of the requirements of the given unit AC electrical power sources (e.g., the opposite unit DG is not required to start on the opposite unit's ECCS initiation signal to support OPERABILITY of the given unit).

BASES

SURVEILLANCE REQUIREMENTS (continued)

10 1

Where the SRs discussed herein specify voltage and frequency tolerances, the following summary is applicable. The minimum steady state output voltage of [3740] 4010 3 V is greater than 1 90% of the nominal 4160 V output voltage. This value, which is 1 Conservative with respect to the value specified in ANSI C84.1 (Ref. 11), allows for voltage drop to the terminals of 4000 V motors whose minimum operating voltage is specified as 90%, or 3600 V. It also allows for voltage drops to motors and other equipment down through the 120 V level where minimum operating voltage is also usually specified as 90% of name plate rating. The specified maximum steady state output voltage of [9756] 4310 3 V is ~~equal to~~ within the maximum operating voltage 1 of 110% specified for 4000 V motors. 1 It ensures that for a lightly loaded distribution system, the voltage at the terminals of 4000 V motors is no more than the maximum rated operating voltages. The specified minimum and maximum frequencies of the DG are 58.8 Hz and 61.2 Hz, respectively. These values are equal to ± 2% of the 60 Hz nominal frequency and are derived from the recommendations given in Regulatory Guide 1.9 (Ref. 3).

SR 3.8.1.1

This SR ensures proper circuit continuity for the offsite AC electrical power supply to the onsite distribution network and availability of offsite AC electrical power. The breaker alignment verifies that each breaker is in its correct position to ensure that distribution buses and loads are connected 4 or capable of being connected to their ~~preferred~~ power source and that appropriate independence of offsite circuits is maintained. The 7 day Frequency is adequate since breaker position is not likely to change without the operator being aware of it and because its status is displayed in the control room.

SR 3.8.1.2 and SR 3.8.1.7

These SRs help to ensure the availability of the standby electrical power supply to mitigate DBAs and transients and maintain the unit in a safe shutdown condition.

To minimize the wear on moving parts that do not get lubricated when the engine is not running, these SRs have been modified by Notes (Note 1 for SR 3.8.1.7 and Note 2 for SR 3.8.1.2) to indicate that all DG starts for these

1 TSTF-253

(continued)

BASES

as recommended by the manufacturer

1

SURVEILLANCE REQUIREMENTS

SR 3.8.1.2 and SR 3.8.1.7 (continued)

normal Surveillances may be preceded by an engine prelube period and followed by a warmup period prior to loading.

1 jacket water Normal 1

For the purposes of this testing, the DGs are started from standby conditions. Standby conditions for a DG mean that the diesel engine ~~coolant~~ and oil are being continuously circulated and temperature is being maintained consistent with manufacturer recommendations. lube 1

temperatures are within the prescribed temperature bands of these subsystems when the DG has been at rest for an extended period with the pre-lube oil and jacket water circulating systems operational

1 TSTF-253

In order to reduce stress and wear on diesel engines, ~~some~~ the manufacturers recommend that the starting speed of DGs be limited, that warmup be limited to this lower speed, and that DGs be gradually accelerated to synchronous speed prior to loading. These start procedures are the intent of Note 3 2, ~~which is only applicable when such procedures are recommended by the manufacturer~~. of SR 3.8.1.2 3

has ed

SR 3.8.1.7 requires that, at a 184 day Frequency, the DG starts from standby conditions and achieves required voltage and frequency within 10 13 seconds. The 10 13 second start requirement supports the assumptions in the design basis LOCA analysis (Ref. 10 5). The 10 13 second start requirement may not be applicable to SR 3.8.1.2 (see Note 3 2 of SR 3.8.1.2), when a modified start procedure as described above is used. If a modified start is not used, the 10 13 second start requirement of SR 3.8.1.7 applies. Since SR 3.8.1.7 does require a 10 13 second start, it is more restrictive than SR 3.8.1.2, and it may be performed in lieu of SR 3.8.1.2. ~~This procedure is the intent of Note 1 of SR 3.8.1.2.~~

1 1 1 1 TSTF-253 TSTF-253

5 The ~~normal~~ 31 day Frequency for SR 3.8.1.2 ~~(see Table 3.8.1-1, "Diesel Generator Test Schedule")~~ is consistent with Regulatory Guide 1.9 (Ref. 3). The 184 day Frequency for SR 3.8.1.7 is a reduction in cold testing consistent with Generic Letter 84-15 (Ref. 7). These Frequencies provide adequate assurance of DG OPERABILITY, while minimizing degradation resulting from testing.

Insert SR 3.8.1.2-1 1 TSTF-163

Insert SR 3.8.1.2-2 5

SR 3.8.1.3

This Surveillance demonstrates that the DGs are capable of synchronizing and accepting greater than or equal to ~~the~~ 90% of the DG continuous load rating 1

(continued)

Insert SR 3.8.1.2-1

In addition, the DG is required to maintain proper voltage and frequency limits after steady state is achieved. The voltage and frequency limits are normally achieved within 13 seconds. [4] ~~In addition to the SR requirements,~~ the time for the DG to reach steady state operation, unless the modified DG start method is employed, is periodically monitored and the trend evaluated to identify degradation of governor and voltage regulator performance. [TSTF 163]

Insert SR 3.8.1.2-2

To minimize testing of the common DG, Note 3 of SR 3.8.1.2 and Note 2 of SR 3.8.1.7 allow a single test for the common DG (instead of two tests, one for each unit) to satisfy the requirements of both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.3 (continued)

~~equivalent of the maximum expected accident loads~~ A minimum run time of 60 minutes is required to stabilize engine temperatures, while minimizing the time that the DG is connected to the offsite source. [1] when running synchronized with the grid [1]

Although no power factor requirements are established by this SR, the DG is normally operated at a power factor between [0.8 lagging] and [1.0]. The [0.8] value is the design rating of the machine, while [1.0] is an operational limitation [to ensure circulating currents are minimized]. [1] at a particular kVA. The [3] power factor [1] power factor value The load band is provided to avoid routine overloading of the DG. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY. Insert SR 3.8.1.3-1 [1]

[5] The (normal) 31 day Frequency for this Surveillance (see Table 3.8.1-1) is consistent with Regulatory Guide 1.9 (Ref. 3).

Note 1 modifies this Surveillance to indicate that diesel engine runs for this Surveillance may include gradual loading, as recommended by the manufacturer, so that mechanical stress and wear on the diesel engine are minimized.

Note 2 modifies this Surveillance by stating that momentary transients because of changing bus loads do not invalidate this test.

Note 3 indicates that this Surveillance must be conducted on only one DG at a time in order to avoid common cause failures that might result from offsite circuit or grid perturbations.

Note 4 stipulates a prerequisite requirement for performance of this SR. A successful DG start must precede this test to credit satisfactory performance.

[5] Insert SR 3.8.1.3-2

SR 3.8.1.4

[6] This SR provides verification that the level of fuel oil in the day tank ~~[and engine mounted tank]~~ is at or above the

(continued)

Insert SR 3.8.1.3-1

condition where the reactive power component is zero, which minimizes the reactive heating of the generator. Operating the generator at a power factor between 0.8 lagging and 1.0 avoids adverse conditions associated with underexciting the generator and more closely represents the generator operating requirements when performing its safety function (running isolated on its associated 4160 V emergency bus).

Insert SR 3.8.1.3-2

To minimize testing of the common DG, Note 5 allows a single test of the common DG (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.4 (continued) the low level alarm is announciated 1 1

level at which ~~fuel oil is automatically added~~. The level is expressed as an equivalent volume in gallons, and is selected to ensure adequate fuel oil for a minimum of ~~1 hour~~ 50 minutes of DG operation at ~~full load plus 10%~~. 1

rated capacity

The 31 day Frequency is adequate to assure that a sufficient supply of fuel oil is available, since low level alarms are provided and facility operators would be aware of any large uses of fuel oil during this period.

SR 3.8.1.5

Microbiological fouling is a major cause of fuel oil degradation. There are numerous bacteria that can grow in fuel oil and cause fouling, but all must have a water environment in order to survive. Removal of water from the fuel oil day ~~[and engine mounted]~~ 6 tanks once every ~~[31]~~ Y days 3 eliminates the necessary environment for bacterial survival. This is most effective means in controlling microbiological fouling. In addition, it eliminates the potential for water entrainment in the fuel oil during DG operation. Water may come from any of several sources, including condensation, ~~ground water,~~ 1 rain water, contaminated fuel oil, and breakdown of the fuel oil by bacteria. Frequent checking for and removal of accumulated water minimizes fouling and provides data regarding the watertight integrity of the fuel oil system. The Surveillance Frequenc~~ies are~~ y is established by Regulatory Guide 1.137 (Ref. 10). 9 This SR is for preventive maintenance. The presence of water does not necessarily represent a failure of this SR provided that accumulated water is removed during performance of this Surveillance.

SR 3.8.1.6 automatically 5

This Surveillance demonstrates that each required fuel oil transfer pump operates and automatically transfers fuel oil from its associated storage tank to its associated day tank. It is required to support the continuous operation of standby power sources. This Surveillance provides assurance that the fuel oil transfer pump is OPERABLE, the fuel oil piping

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.6 (continued)

system is intact, the fuel delivery piping is not obstructed, and the controls and control systems for automatic fuel transfer systems are OPERABLE.

3

The Frequency for this SR ~~is variable, depending on individual system design, with up to a 92 day interval. The 92 day Frequency~~ corresponds to the testing requirements for pumps as contained in the ASME Boiler and Pressure Vessel Code, Section XI (Ref. ~~12~~); ~~however, the design of fuel transfer systems is such that pumps operate automatically or must be started manually in order to maintain an adequate volume of fuel oil in the day [and engine mounted] tanks during or following DG testing. In such a case, a 31 day Frequency is appropriate. Since proper operation of fuel transfer systems is an inherent part of DG OPERABILITY, the Frequency of this SR should be modified to reflect individual designs.~~

11

~~SR 3.8.1.7~~

~~See SR 3.8.1.2.~~

4

SR 3.8.1.8

3

Division 1 and 2

emergency

Division 1 and 2

Transfer of ~~each~~ 4.16 kV ~~ESF~~ bus power supply from the normal offsite circuit to the alternate offsite circuit demonstrates the OPERABILITY of the alternate circuit distribution network to power the shutdown loads. The ~~[18 month]~~ Frequency of the Surveillance is based on engineering judgment taking into consideration the plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths. Operating experience has shown that these components usually pass the SR when performed on the ~~[18 month]~~ Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

24

24

5

~~This SR is modified by a Note. The reason for the Note is that, during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant~~

(continued)

TSTF-8 changes not shown

BASES

SURVEILLANCE REQUIREMENTS

5

~~SR 3.8.1.8 (continued)~~

~~safety systems. Credit may be taken for unplanned events that satisfy this SR.~~

SR 3.8.1.9

1

Each DG is provided with an engine overspeed trip to prevent damage to the engine. Recovery from the transient caused by the loss of a large load could cause diesel engine overspeed, which, if excessive, might result in a trip of the engine. This Surveillance demonstrates the DG load response characteristics and capability to reject the largest single load without exceeding predetermined ~~voltage and~~ frequency and while maintaining a specified margin to the overspeed trip. The load referenced for ~~DG 11~~ the Division 1 is the ~~1200~~ 1190 kW low pressure core spray pump; for ~~DG 12,~~ the Division 2 the ~~550~~ 638 kW residual heat removal (RHR) pump; and for ~~DG 13~~ the Division 3 the ~~2180~~ 2421 kW HPCS pump. ~~The Standby Service Water (SSW) pump values are not used as the largest load since the SSW supplies cooling to the associated DG. If this load were to trip, it would result in the loss of the DG.~~ This Surveillance may be accomplished by:

5

1

a. Tripping the DG output breaker with the DG carrying greater than or equal to its associated single largest post-accident load while paralleled to offsite power, or while solely supplying the bus; or

b. Tripping its associated single largest post-accident load with the DG solely supplying the bus.

1

Consistent with Regulatory Guide 1.9 (Ref. 3)

~~As required by IEEE-308 (Ref. 13)~~, the load rejection test is acceptable if the ~~increase in~~ diesel speed does not exceed 75% of the difference between ~~synchronous~~ nominal speed and the overspeed trip setpoint, or 15% above ~~synchronous~~ nominal speed, whichever is lower. ~~For the Grand Gulf Nuclear Station these values are the same.~~

1

5

~~The time, voltage, and frequency tolerances specified in this SR are derived from Regulatory Guide 1.9 (Ref. 3) recommendations for response during load sequence intervals. The 3 seconds specified is equal to 60% of the 5 second load~~

(continued)

1

This corresponds to 66.7 Hz, which is the nominal speed plus 75% of the difference between nominal speed and the overspeed trip setpoint.

takes into consideration the plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

1

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.9 (continued)

5

~~sequence interval associated with sequencing of this largest load. The voltage and frequency specified are consistent with the design range of the equipment powered by the DG. SR 3.8.1.9.a corresponds to the maximum frequency excursion, while SR 3.8.1.9.b and SR 3.8.1.9.c are steady state voltage and frequency values to which the system must recover following load rejection.~~ The ~~[18~~ 24 month~~]~~ Frequency ~~is consistent with the recommendation of Regulatory Guide 1.108 (Ref. 9).~~

1 3

This SR has been modified by ~~two~~ a Note~~s~~. ~~The reason for Note 1 is that during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR. In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, Note 2 requires that, if synchronized to offsite power, testing must be performed using a power factor ≤ [0.9]. This power factor is chosen to be representative of the actual design basis inductive loading that the DG could experience.~~

5

TSTF-8 not adopted

Insert SR 3.8.1.9

5

~~Reviewer's Note: The above MODE restrictions may be deleted if it can be demonstrated to the staff, on a plant specific basis, that performing the SR with the reactor in any of the restricted MODES can satisfy the following criteria, as applicable:~~

~~a. Performance of the SR will not render any safety system or component inoperable;~~

~~b. Performance of the SR will not cause perturbations to any of the electrical distribution systems that could result in a challenge to steady state operation or to plant safety systems; and~~

~~c. Performance of the SR, or failure of the SR, will not cause, or result in, an AOO with attendant challenge to plant safety systems.~~

11

(continued)

Insert SR 3.8.1.9

To minimize testing of the common DG, a Note allows a single test of the common DG (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

1 Consistent with Regulatory Guide 1.9 (Ref. 3), paragraph C.2.2.8,

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.10

This Surveillance demonstrates the DG capability to reject a full load without overspeed tripping or exceeding the predetermined voltage limits. The DG full load rejection may occur because of a system fault or inadvertent breaker tripping. This Surveillance ensures proper engine generator load response under the simulated test conditions. This test simulates the loss of the total connected load that the DG experiences following a full load rejection and verifies that the DG does not trip upon loss of the load. These acceptance criteria provide DG damage protection. While the DG is not expected to experience this transient during an event, and continues to be available, this response ensures that the DG is not degraded for future application, including reconnection to the bus if the trip initiator can be corrected or isolated.

~~In order to ensure that the DG is tested under load conditions that are as close to design basis conditions as possible, testing must be performed using a power factor ≤ [0.9]. This power factor is chosen to be representative of the actual design basis inductive loading that the DG would experience.~~ 5

24 3 1

The ~~[18 month]~~ Frequency ~~is consistent with the recommendation of Regulatory Guide 1.108 (Ref. 9)~~ takes into consideration the plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

5 Insert SR 3.8.1.10

This SR has been modified by a Note. ~~The reason for the Note is that during operation with the reactor critical, performance of this SR could cause perturbation to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR.~~

TSTF-8 changes not shown

11

~~Reviewer's Note: The above MODE restrictions may be deleted if it can be demonstrated to the staff, on a plant specific basis, that performing the SR with the reactor in any of the restricted MODES can satisfy the following criteria, as applicable:~~

~~a. Performance of the SR will not render any safety system or component inoperable;~~

(continued)

Insert SR 3.8.1.10

To minimize testing of the common DG, a Note allows a single test of the common DG (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.10 (continued)

11

~~b. Performance of the SR will not cause perturbations to any of the electrical distribution systems that could result in a challenge to steady state operation or to plant safety systems; and~~

~~c. Performance of the SR, or failure of the SR, will not cause, or result in, an AOO with attendant challenge to plant safety systems.~~

SR 3.8.1.11 1 Consistent with 1 1.9 1 3 (Divisions 1 and 2 only) 5

1 C.2.2.4

~~As required by~~ Regulatory Guide ~~1.108~~ (Ref. 9), paragraph ~~2.a.(1)~~, this Surveillance demonstrates the as designed operation of the standby power sources during loss of the offsite source. This test verifies all actions encountered from the loss of offsite power, including shedding of the nonessential loads and energization of the emergency buses and respective loads from the DG. It further demonstrates the capability of the DG to automatically achieve the required voltage and frequency within the specified time.

12 and energization of permanently connected loads

4 for responding

13 1

The DG auto-start time of ~~10~~ seconds is derived from requirements of the accident analysis ~~to respond~~ to a design basis large break LOCA. The Surveillance should be continued for a minimum of 5 minutes in order to demonstrate that all starting transients have decayed and stability has been achieved.

1 (Ref. 5)

5 ly connected loads

The requirement to verify the connection and power supply of permanent and auto-connected loads is intended to satisfactorily show the relationship of these loads to the DG loading logic. In certain circumstances, many of these loads cannot actually be connected or loaded without undue hardship or potential for undesired operation. For instance, ECCS injection valves are not desired to be stroked open, systems are not capable of being operated at full flow, or RHR systems performing a decay heat removal function are not desired to be realigned to the ECCS mode of operation. In lieu of actual demonstration of the connection and loading of these loads, testing that adequately shows the capability of the DG system to perform

(continued)

1

The prelube period shall be consistent with manufacturer recommendations.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.11 (continued)

these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified.

3 1 4

The Frequency of ~~[18 months]~~ 24 ~~is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(1),~~ takes into consideration ~~unit~~ plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

temperatures within the prescribed bands of these subsystems when the DG has been at rest for an extended period with the pre-lube oil and jacket water circulating systems operational.

1

5 a 1 jacket water the 5

This SR is modified by ~~two~~ a Note~~s~~. The reason for the Note ~~1~~ is to minimize wear and tear on the DGs during testing. For the purpose of this testing, the DGs must be started from normal 1 standby conditions, that is, with the engine ~~coolant~~ jacket water and lube oil ~~being continuously circulated and temperature maintained consistent with manufacturer recommendations for [Division 1 and 2] DGs. [For the [Division 3] DG, standby conditions mean that the lube oil is heated and continuously circulated through a portion of the system as recommended by the vendor. Engine jacket water is heated by the lubricating oil and circulates through the system by natural circulation.]~~ ~~The reason for Note 2 is that performing the Surveillance would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge plant safety systems. Credit may be taken for unplanned events that satisfy this SR.~~ 1

5

TSTF-8 changes not shown

Consistent with Regulatory Guide 1.9 (Ref. 3), paragraph C.2.2.5,

1

1

Insert SR 3.8.1.12

SR 3.8.1.12

Consistent with Regulatory Guide 1.9 (Ref. 3), paragraph C.2.2.5, ~~This Surveillance demonstrates that the DG automatically starts and achieves the required voltage and frequency within the specified time ([10] 13 seconds) from the design basis actuation signal (LOCA signal) and operates for ≥ [5] minutes. The [5] minute period provides sufficient time to demonstrate stability. SR 3.8.1.12.d and SR 3.8.1.12.e ensure that permanently connected loads and emergency loads are energized from the offsite electrical power system on an ECCS signal without loss of offsite power.~~

3 3

~~The requirement to verify the connection and power supply of permanent and autoconnected loads is intended to satisfactorily show the relationship of these loads to the~~

5

(continued)

Insert SR 3.8.1.12

. In addition, the DG is required to maintain proper voltage and frequency limits after steady state is achieved. The voltage and frequency limits are normally achieved within 13 seconds. The time for the DG to reach the steady state voltage and frequency limits is periodically monitored and the trend evaluated to identify degradation of governor and voltage regulator performance. The DG is required to

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.12 (continued)

5

~~loading logic for loading onto offsite power. In certain circumstances, many of these loads cannot actually be connected or loaded without undue hardship or potential for undesired operation. For instance, ECCS injection valves are not desired to be stroked open, high pressure injection systems are not capable of being operated at full flow, or RHR systems performing a decay heat removal function are not desired to be realigned to the ECCS mode of operation. In lieu of actual demonstration of the connection and loading of these loads, testing that adequately shows the capability of the DG system to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified.~~

3

24 3

The Frequency of [18 months] takes into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with the expected fuel cycle lengths. ~~Operating experience has shown that these components usually pass the SR when performed at the [18 month] Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.~~ 3 4

5 a 1 jacket water

This SR is modified by ~~two~~ Notes. The reason for the Note ~~1~~ is to minimize wear and tear on the DGs during testing. For the purpose of this testing, the DGs must be started from normal standby conditions, that is, with the engine ~~coolant~~ and lube oil ~~being continuously circulated and temperature maintained consistent with manufacturer recommendations. The reason for Note 2 is that during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR.~~ 5

1

temperatures with the prescribed temperature bands of these subsystems when the DG has been at rest for an extended period with the pre-lube oil and jacket water circulating systems operational

1

The prelube period shall be consistent with manufacturer recommendations.

1

TSTF-8 changes not shown

5

1

Consistent with Regulatory Guide 1.9 (Ref. 3) paragraph C.2.2.12,

SR 3.8.1.13

This Surveillance demonstrates that DG non-critical protective functions (e.g., high jacket water temperature) are bypassed on a loss of voltage signal concurrent with an ECCS initiation test signal and critical protective functions (engine overspeed, and generator differential current,) 5

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.13 (continued) 5

~~and low lube oil pressure~~) trip the DG to avert substantial damage to the DG unit. The non-critical trips are bypassed during DBAs and provide an alarm on an abnormal engine condition. This alarm provides the operator with sufficient time to react appropriately. The DG availability to mitigate the DBA is more critical than protecting the engine against minor problems that are not immediately detrimental to emergency operation of the DG.

3 The ~~[18~~ 24 month~~]~~ Frequency is based on engineering judgment, taking into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths. ~~Operating experience has shown that these components usually pass the SR when performed at the [18 month] Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.~~ 1

5 TSTF-8 Changes not shown

~~The SR is modified by a Note. The reason for the Note is that performing the Surveillance removes a required DG from service. Credit may be taken for unplanned events that satisfy this SR.~~

11 ~~[Reviewer's Note: The above MODE restrictions may be deleted if it can be demonstrated to the staff, on a plant specific basis, that performing the SR with the reactor in any of the restricted MODES can satisfy the following criteria, as applicable:~~

~~a. Performance of the SR will not render any safety system or component inoperable;~~

~~b. Performance of the SR will not cause perturbations to any of the electrical distribution systems that could result in a challenge to steady state operation or to plant safety systems; and~~

~~c. Performance of the SR, or failure of the SR, will not cause, or result in, an AOO with attendant challenge to plant safety systems.]~~

(continued)

BASES

4

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.14

1 9 1 3 1 C.2.2.9 this Surveillance

1 Consistent with

Regulatory Guide 1.~~108~~ (Ref. ~~9~~), paragraph ~~2.a.(3)~~, requires demonstration ~~once per 18 months~~ that the DGs can start and run continuously ~~at~~ full load capability for an interval of not less than 24 hours~~,~~ 22 hours of which is at a load equivalent to the continuous rating of the DG, and 2 hours of which is at a load ~~equivalent to 110% of the continuous duty~~ rating of the DG. The DG starts for this Surveillance can be performed either from standby or hot conditions. The provisions for prelube and warmup, discussed in SR 3.8.1.2, and for gradual loading, discussed in SR 3.8.1.3, are applicable to this SR.

1 near

4)

5 between the 2000 hour rating and the 7 day

92% and 100% of

normal 1

5 3

at a power factor as close to the accident load as practicable. When synchronized with offsite power, the power factor limit is ≤ 85%.

In order to ensure that the DG is tested under load conditions that are as close to design conditions as possible, testing must be performed ~~using a power factor ≤ [0.9]~~. This power factor is chosen to ~~be representative of~~ the actual ~~design basis~~ inductive loading that the DG could experience.

1 bound

under design basis accident conditions 4

24 3

The ~~[18 month]~~ Frequency ~~is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(3);~~ takes into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

1

) 4

4 worst case

three 5

This Surveillance is modified by ~~two~~ Notes. Note 1 states that momentary transients due to changing bus loads do not invalidate this test. The load band is provided to avoid routine overloading of the DG. Routine overloading may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY. Similarly, momentary power factor transients above the limit do not invalidate the test. ~~The reason for Note 2 is that during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that would challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR.~~

5 Insert SR 3.8.1.14

5

TSTF-8 changes not shown

(continued)

Insert SR 3.8.1.14

Note 2 is provided in recognition that under certain conditions, it is necessary to allow the Surveillance to be conducted at a power factor other than the specified limit. These conditions occur when grid voltage is high, and the additional field excitation needed to get the power factor to the specified limit results in voltages on the emergency busses that are too high. Under these conditions, the power factor should be maintained as close as practicable to the specified limit while still maintaining acceptable voltage limits on the emergency busses. In other circumstances, the grid voltage may be such that the DG excitation levels needed to obtain the specified power factor may not cause unacceptable voltages on the emergency busses, but the transient voltage at the generator terminals would be in excess of those recommended for the DG if the DG output breaker were to trip during the Surveillance. In such cases, the power factor shall be maintained as close as practicable to the specified limit while still ensuring that if the DG output breaker were to trip during the Surveillance that the maximum DG winding voltage would not be exceeded. To minimize testing of the common DG, Note 3 allows a single test of the common DG (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.15

This Surveillance demonstrates that the diesel engine can restart from a hot condition, such as subsequent to shutdown from normal Surveillances, and achieve the required voltage and frequency within ~~10~~ 13 seconds. The ~~10~~ 13 second time is derived from the requirements of the accident analysis ~~to~~ for respond ing to a design basis large break LOCA (Ref. 5). Insert SR 3.8.1.15-1 5 13 1 5 13 4 1

The ~~18 month~~ 24 Frequency ~~is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(5).~~ takes into consideration the plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths. 3 1

This SR has been modified by ~~two~~ three Notes. Note 1 ensures that the test is performed with the diesel sufficiently hot. The requirement that the diesel has operated for at least 2 hours at 92% to 100% of full load conditions prior to performance of this Surveillance is based on manufacturer recommendations for achieving hot conditions. The load band is provided to avoid routine overloading of the DG. Routine overloads may result in more frequent teardown inspections in accordance with vendor recommendations in order to maintain DG OPERABILITY. Momentary transients due to changing bus loads do not invalidate this test. Note 2 allows all DG starts to be preceded by an engine prelube period to minimize wear and tear on the diesel during testing. Insert SR 3.8.1.15-2 5 1

SR 3.8.1.16

~~As required by~~ Consistent with Regulatory Guide 1.~~108~~ 9 (Ref. ~~9~~ 3), paragraph ~~2.a.(6)~~ C.2.2.11, this Surveillance ensures that the manual synchronization and automatic load transfer from the DG to the offsite source can be made and that the DG can be returned to ready-to-load status when offsite power is restored. It also ensures that the auto-start logic is reset to allow the DG to reload if a subsequent loss of offsite power occurs. The DG is considered to be in ready-to-load status when the DG is at rated speed and voltage, the output breaker is open and can receive an auto-close signal on bus undervoltage, and the load ~~sequence~~ individual time~~rs~~ delay relays are reset. 1 1 1

The Frequency of ~~18 months~~ 24 ~~is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9),~~ 3 1

(continued)

Insert SR 3.8.1.15-1

In addition, the DG is required to maintain proper voltage and frequency limits after steady state is achieved. The voltage and frequency limits are normally achieved within 13 seconds. The time for the DG to reach the steady state voltage and frequency limits is periodically monitored and the trend evaluated to identify degradation of governor and voltage regulator performance.

Insert SR 3.8.1.15-2

The prelube period shall be consistent with manufacturer recommendations. To minimize testing of the common DG, Note 3 allows a single test of the common DG (instead of two tests, one for each unit) to satisfy the requirements for both units. This is allowed since the main purpose of the Surveillance can be met by performing the test on either unit. If the DG fails one of these Surveillances, the DG should be considered inoperable on both units, unless the cause of the failure can be directly related to only one unit.

1 , and is intended to be consistent with expected fuel cycle lengths

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.16 (continued)

1 ~~paragraph 2.1.(6), and~~ takes into consideration plant conditions required to perform the Surveillance.

~~This SR is modified by a Note. The reason for the Note is that performing the Surveillance would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy this SR.~~ 5 TSTF-8 Changes Not Shown

SR 3.8.1.17

parallel 4

1 Consistent with Regulatory Guide 1.9 (Ref. 3), paragraph c.2.2.13,

~~Demonstration~~ Demonstration of the test mode override ensures that the DG availability under accident conditions is not compromised as the result of testing. Interlocks to the LOCA sensing circuits cause the ~~DG~~ DGs to automatically reset to ready-to-load operation if an ECCS initiation signal is received during operation in the test mode. Ready-to-load operation is defined as the DG running at rated speed and voltage with the DG output breaker open. These provisions for automatic switchover are required by IEEE-308 (Ref. ~~13~~ 12), paragraph 6.2.6(2). Divisions 1 and 2 5 1

5 The Division 3 DG overcurrent trip of the SAT feeder breaker to the respective Division 3 emergency bus demonstrates the ability of the Division 3 DG to remain connected to the emergency bus and supplying the necessary loads.

~~The requirement to automatically energize the emergency loads with offsite power is essentially identical to that of SR 3.8.1.12. The intent in the requirement associated with SR 3.8.1.17.b is to show that the emergency loading is not affected by the DG operation in test mode. In lieu of actual demonstration of connection and loading of loads, testing that adequately shows the capability of the emergency loads to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified.~~ 5

The ~~18~~ 24 month 3 ~~Frequency is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(8);~~ takes into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths. 1 4 3

~~This SR has been modified by a Note. The reason for the Note is that performing the Surveillance would remove a required offsite circuit from service, perturb the~~ 5

(continued)

BASES

5

SURVEILLANCE REQUIREMENTS

SR 3.8.1.17 (continued)

electrical distribution system, and challenge safety systems. Credit may be taken for unplanned events that satisfy this SR.

TSTF-8 changes not shown

SR 3.8.1.18

with

Under accident conditions and loss of offsite power, loads are sequentially connected to the bus by the load sequencing panel. The sequencing logic controls the permissive and starting signals to motor breakers to prevent overloading of the DGs due to high motor starting currents. The [10]% load sequence time interval tolerance ensures that sufficient time exists for the DG to restore frequency and voltage prior to applying the next load and that safety analysis assumptions regarding ESF equipment time delays are not violated. Reference 2 provides a summary of the automatic loading of ESF buses. 3 1 1 3 4

1 individual time delay relays

4 interval

a

1 emergency

3

24

The Frequency of [18 months] is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(2), takes into consideration plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths. 1 4

5 Since only the Division 1 and 2 DGs have more than one load block, this SR is only applicable to these DGs.

This SR is modified by a Note. The reason for the Note is that performing the Surveillance during these MODES would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge plant safety systems. Credit may be taken for unplanned events that satisfy this SR.

5 TSTF-8 changes not shown

11

[Reviewer's Note: The above MODE restrictions may be deleted if it can be demonstrated to the staff, on a plant specific basis, that performing the SR with the reactor in any of the restricted MODES can satisfy the following criteria, as applicable:

a. Performance of the SR will not render any safety system or component inoperable;]

(continued)

BASES

SURVEILLANCE REQUIREMENTS

~~SR 3.8.1.18 (continued)~~ [11]

~~b. Performance of the SR will not cause perturbations to any of the electrical distribution systems that could result in a challenge to steady state operation or to plant safety systems; and~~

~~c. Performance of the SR, or failure of the SR, will not cause, or result in, an AOO with attendant challenge to plant safety systems.~~

SR 3.8.1.19

In the event of a DBA coincident with a loss of offsite power, the DGs are required to supply the necessary power to ESF systems so that the fuel, RCS, and containment design limits are not exceeded.

This Surveillance demonstrates the DG operation, as discussed in the Bases for SR 3.8.1.11, during a loss of offsite power actuation test signal in conjunction with an ECCS initiation signal. In lieu of actual demonstration of connection and loading of loads, testing that adequately shows the capability of the DG system to perform these functions is acceptable. This testing may include any series of sequential, overlapping, or total steps so that the entire connection and loading sequence is verified.

The Frequency of ~~[18~~ 24 months~~]~~ takes into consideration plant conditions required to perform the Surveillance and is intended to be consistent with an expected fuel cycle length ~~of [18 months]~~. [3] [4]

This SR is modified by ~~two~~ a Note~~s~~. The reason for ~~Note 2~~ the Note is ~~to minimize wear and tear on the DGs during testing.~~ For the purpose of this testing, the DGs must be started from normal [1] standby conditions, that is, with the engine ~~coolant~~ jacket water [1] and lube [1] oil ~~being continuously circulated and temperature maintained consistent with manufacturer recommendations. The reason for Note 2 is that performing the Surveillance would remove a required offsite circuit from service, perturb the electrical distribution system, and challenge plant safety systems. Credit may be taken for unplanned events that satisfy this SR.~~ [5] temperatures within the prescribed temperature bands of these subsystems when the DG has been at rest for an extended period with the pre-lube oil and jacket water circulating systems operational. [1]

[1] The prelube period shall be consistent with manufacturer recommendations.

TSTF-8 changes not shown

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.20

unit 4

This Surveillance demonstrates that the DG starting independence has not been compromised. Also, this Surveillance demonstrates that each engine can achieve proper ~~speed~~ within the specified time when the DGs are started simultaneously.

12 frequency and voltage

unit 4

, paragraph C.2.2.14

The 10 year Frequency is consistent with the recommendations of Regulatory Guide 1.~~108~~ (Ref. ~~9~~). 9 3

1

jacket water 1

This SR is modified by a Note. The reason for the Note is to minimize wear on the DG during testing. For the purpose of this testing, the DGs must be started from standby conditions, that is, with the engine ~~coolant~~ and oil continuously circulated and temperature maintained consistent with manufacturer recommendations.

lube 1

temperatures within the prescribed temperature bands of these subsystems when the DG has been at rest for an extended period with the pre-lube oil and jacket water circulating systems operational.

1

The prelube period shall be consistent with manufacturers recommendations.

Insert SR 3.8.1.21

5

~~Diesel Generator Test Schedule~~

~~The DG test schedule (Table 3.8.1-1) implements the recommendations of Revision 3 to Regulatory Guide 1.9 (Ref. 3). The purpose of this test schedule is to provide timely test data to establish a confidence level associated with the goal to maintain DG reliability at > 0.95 per test.~~

~~According to Regulatory Guide 1.9 (Ref. 3), Revision 3, each DG unit should be tested at least once every 31 days. Whenever a DG has experienced 4 or more valid failures in the last 25 valid tests, the maximum time between tests is reduced to 7 days. Four failures in 25 valid tests is a failure rate of 0.16, or the threshold of acceptable DG performance, and hence may be an early indication of the degradation of DG reliability. When considered in the light of a long history of tests, however, 4 failures in the last 25 valid tests may only be a statistically probable distribution of random events. Increasing the test Frequency allows a more timely accumulation of additional test data upon which to base judgment of the reliability of the DG. The increased test Frequency must be maintained until seven consecutive failure free tests have been performed.~~

~~The Frequency for accelerated testing is 7 days, but no less than 24 hours. Tests conducted at intervals of less than 24~~

5

(continued)

Insert SR 3.8.1.21

With the exception of this Surveillance, all other Surveillances of this Specification (SR 3.8.1.1 through SR 3.8.1.20) are applied to the given unit AC sources. This Surveillance is provided to direct that appropriate Surveillances for the required opposite unit AC source is governed by the applicable opposite unit Technical Specifications. Performance of the applicable opposite unit Surveillances will satisfy the opposite unit requirements as well as satisfy the given unit Surveillance Requirement. Exceptions are noted to the opposite unit SRs of LCO 3.8.1. SR 3.8.1.20 is excepted since only one opposite unit DG is required by the given unit Specification. SR 3.8.1.12, SR 3.8.1.13, SR 3.8.1.17, SR 3.8.1.18, and SR 3.8.1.19 are excepted since these SRs test the opposite unit's ECCS initiation signal, which is not required for the AC electrical power sources to be OPERABLE on a given unit.

The Frequency required by the applicable opposite unit SR also governs performance of that SR for the given unit.

As noted, if the opposite unit is in MODE 4 or 5, or moving irradiated fuel assemblies in secondary containment, SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, and SR 3.8.1.14 through SR 3.8.1.16 are not required to be performed. This ensures that a given unit SR will not require an opposite unit SR to be performed, when the opposite unit Technical Specifications exempts performance of an opposite unit SR (however, as stated in the opposite unit SR 3.8.2.1 Note 1, while performance of an SR is exempted, the SR must still be met).

BASES

SURVEILLANCE REQUIREMENTS

5

~~Diesel Generator Test Schedule (continued)~~

~~hours may be credited for compliance with Required Actions. However, for the purpose of re-establishing the normal 31-day Frequency, a successful test at an interval of less than 24 hours should be considered an invalid test and not count towards the seven consecutive failure free starts, and the consecutive test count is not reset.~~

~~A test interval in excess of 7 days (or 31 days, as appropriate) constitutes a failure to meet SRs and results in the associated DG being declared inoperable. It does not, however, constitute a valid test or failure of the DG, and any consecutive test count is not reset.~~

REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. 1 U FSAR, Chapter ~~[~~8~~]~~. 3
3. Regulatory Guide 1.9.
4. 1 U FSAR, Chapter ~~[~~6~~]~~. 3
5. 1 U FSAR, Chapter ~~[~~15~~]~~. 3
6. Regulatory Guide 1.93.
7. Generic Letter 84-15, July 2, 1984.
8. 10 CFR 50, Appendix A, GDC 18.
9. ~~Regulatory Guide 1.108.~~ 1

9 ~~10~~. Regulatory Guide 1.137. 1

10 ~~11~~. ANSI C84.1, 1982. 1

1 11 ~~12~~. ASME, Boiler and Pressure Vessel Code, Section XI.

1 12 ~~13~~. IEEE Standard 308.

1. Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature, number, reference, system description, or analysis description.

2. The proper LaSalle 1 and 2 plant specific LCO number has been provided.

3. The brackets have been removed and the proper plant specific information/value has been provided.

4. Editorial change made for enhanced clarity or to be consistent with similar statements in other places in the Bases.

5. Changes have been made to reflect those changes made to the Specification. The following requirements have been renumbered, where applicable, to reflect the changes.

6. This bracketed requirement/information has been deleted because it is not applicable to LaSalle 1 and 2. The following requirements have been renumbered, where applicable, to reflect this deletion.

7. This change has been made since Section 3.5, "ECCS and RCIC System," provides the appropriate limits that are affected by the systems in this LCO.

8. This change has been made to be consistent with the Applicability of LCO 3.8.2.

9. Typographical/grammatical error corrected.

10. Condition H may also apply, since the LCO can require up to four DGs to be OPERABLE.

11. This Reviewer's Note has been deleted. This information is for the NRC reviewer to be keyed in to what is needed to meet the requirement. This is not meant to be retained in the final version of the plant specific submittal.

12. Changes have been made to more closely match the Specification requirements.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.2 AC Sources—Shutdown

BASES

BACKGROUND

A description of the AC sources is provided in the Bases for LCO 3.8.1, "AC Sources—Operating."

APPLICABLE SAFETY ANALYSES

The OPERABILITY of the minimum AC sources during MODES 4 ~~and 5~~ and during movement of irradiated fuel assemblies in the secondary containment ensures that: 2

1

a. The unit can be maintained in the shutdown or refueling condition for extended periods;

b. Sufficient instrumentation and control capability is available for monitoring and maintaining the unit status; and

c. Adequate AC electrical power is provided to mitigate events postulated during shutdown, such as an inadvertent draindown of the vessel or a fuel handling accident.

1

In general, when the unit is shut down the Technical Specifications (TS) requirements ensure that the unit has the capability to mitigate the consequences of postulated accidents. However, assuming a single failure and concurrent loss of all offsite or loss of all onsite power is not required. The rationale for this is based on the fact that many Design Basis Accidents (DBAs) that are analyzed in MODES 1, 2, and 3 have no specific analyses in MODES 4 and 5. Worst case bounding events are deemed not credible in MODES 4 and 5 because the energy contained within the reactor pressure boundary, reactor coolant temperature and pressure, and the corresponding stresses result in the probabilities of occurrence significantly reduced or eliminated, and minimal consequences. These deviations from DBA analysis assumptions and design requirements during shutdown conditions are allowed by the LCO for required systems.

During MODES 1, 2, and 3, various deviations from the analysis assumptions and design requirements are allowed

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

within the ACTIONS. This allowance is in recognition that certain testing and maintenance activities must be conducted provided an acceptable level of risk is not exceeded. During MODES 4 and 5, performance of a significant number of required testing and maintenance activities is also required. In MODES 4 and 5, the activities are generally planned and administratively controlled. Relaxations from typical MODE 1, 2, and 3 LCO requirements are acceptable during shutdown MODES based on:

a. The fact that time in an outage is limited. This is a risk prudent goal as well as utility economic consideration.

b. Requiring appropriate compensatory measures for certain conditions. These may include administrative controls, reliance on systems that do not necessarily meet typical design requirements applied to systems credited in operating MODE analyses, or both.

c. Prudent utility consideration of the risk associated with multiple activities that could affect multiple systems.

d. Maintaining, to the extent practical, the ability to perform required functions (even if not meeting MODE 1, 2, and 3 OPERABILITY requirements) with systems assumed to function during an event.

In the event of an accident during shutdown, this LCO ensures the capability of supporting systems necessary to avoid immediate difficulty, assuming either a loss of all offsite power or a loss of all onsite (diesel generator (DG)) power.

The AC sources satisfy Criterion 3 of ~~the NRC Policy Statement~~ 10 CFR 50.36(c)(2)(ii). 2

LCO 2 , and Division 3

One offsite circuit capable of supplying onsite ~~Class 1E~~ power distribution subsystem(s) of LCO 3.8.~~10~~ 8, "Distribution Systems—Shutdown," ensures that all required Division 1 ~~loads~~, Division 2 loads~~, or both,~~ are powered from offsite power. An OPERABLE Unit DG, associated with a Division 1 or Division 2 Distribution System ~~Engineered Safety Feature~~ emergency

4 Unit 2 2 2 Unit

(continued)

BASES

8 4

LCO (continued)

2

ESF bus required OPERABLE by LCO 3.8.~~10~~, ensures a diverse power source is available to provide electrical power support, assuming a loss of the offsite circuit. Similarly, when the ~~high pressure core spray~~ (HPCS) System is required to be OPERABLE, ~~a separate offsite circuit to the Division 3 Class 1E onsite electrical power distribution subsystem, or~~ an OPERABLE Division 3 DG, ensures ~~an additional~~ a diverse source of power for the HPCS System is available to provide electrical power support, assuming a loss of the offsite circuit. ~~This additional source for Division 3 is not necessarily required to be connected to be OPERABLE. Either the circuit required by LCO Item a. or a circuit required to meet LCO Item c. may be connected, with the second source available for connection.~~ Together, OPERABILITY of the required offsite circuit(s) and DG(s) ensure the availability of sufficient AC sources to operate the plant in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents, reactor vessel draindown).

System 2

a diverse

2

5 INSERT LCO-A

The qualified offsite emergency circuit(s) must be capable of maintaining rated frequency and voltage while connected to their respective ~~ESF~~ bus(es), and of accepting required loads during an accident. Qualified offsite circuits are those that are described in the FSAR and are part of the licensing basis for the plant. ~~[The offsite circuit consists of incoming breaker and disconnect to the respective service transformers 11 and 21, the 11 and 21 service transformers, the ESF transformers 11 and 21, and the respective circuit path including feeder breakers to all 4.16 kV ESF buses required by LCO 3.8.10.]~~

2

2 (u)

6 INSERT LCO-B

The required DG must be capable of starting, accelerating to rated speed and voltage, and connecting to its respective emergency ~~ESF~~ bus on detection of bus undervoltage, and accepting required loads. This sequence must be accomplished within ~~10~~ 13 seconds. Each DG must also be capable of accepting required loads within the assumed loading sequence intervals, and must continue to operate until offsite power can be restored to the emergency ~~ESF~~ buses. These capabilities are required to be met from a variety of initial conditions such as: DG in standby with the engine hot and DG in standby with the engine at ambient conditions. Additional DG capabilities must be demonstrated to meet required Surveillances, e.g., capability of the Division 1 and 2 DGs ~~DG~~ to revert to standby status on an ECCS signal while operating in parallel test mode.

2 emergency

6 13

emergency 2

2

(continued)

Insert LCO-A

Additionally, when the Standby Gas Treatment (SGT) System, Control Room Area Filtration (CRAF) System, or Control Room Area Ventilation Air Conditioning System is required to be OPERABLE, one qualified offsite circuit (normal or alternate) between the offsite transmission network and the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem or an opposite unit DG capable of supporting the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem is required to be OPERABLE.

Insert LCO-B

An OPERABLE qualified normal offsite circuit consists of the required incoming breaker(s) and disconnects from the 345 kV switchyard to and including the SAT or UAT (backfeed mode), the respective circuit path to and including the feeder breakers to the required Division 1, 2, and 3 emergency buses.

An OPERABLE qualified alternate offsite circuit consists of the required incoming breaker(s) and disconnects from the 345 kV switchyard to and including the SAT or UAT (backfeed mode), to and including the opposite unit 4.16 kV emergency bus, the opposite unit circuit path to and including the unit tie breakers (breakers 1414, 1424, 2414, and 2424), and the respective circuit path to the required Division 1 and 2 emergency buses.

BASES

LCO (continued)

2

The necessary portions of the DG Cooling Water System and Ultimate Heat Sink capable of providing cooling to the required DG(s) are also required.

Proper sequencing of loads, including tripping of nonessential loads, is a required function for DG OPERABILITY. ~~[In addition, proper sequencer operation is an integral part of offsite circuit OPERABILITY since its inoperability impacts on the ability to start and maintain energized loads required OPERABLE by LCO 3.8.10.]~~ 7

It is acceptable for divisions to be cross tied during shutdown conditions, permitting a single offsite power circuit to supply all required divisions. ~~[No fast transfer capability is required for offsite circuits to be considered OPERABLE.]~~ 7

~~As described in Applicable Safety Analyses, in the event of an accident during shutdown, the TS are designed to maintain the plant in a condition such that, even with a single failure, the plant will not be in immediate difficulty.~~ 8

APPLICABILITY

6

The AC sources required to be OPERABLE in MODES 4 and 5 and during movement of irradiated fuel assemblies in the ~~primary or~~ secondary containment provide assurance that:

a. Systems to provide adequate coolant inventory makeup are available for the irradiated fuel in the core in case of an inadvertent draindown of the reactor vessel;

b. Systems needed to mitigate a fuel handling accident are available;

c. Systems necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and

d. Instrumentation and control capability is available for monitoring and maintaining the unit in a cold shutdown condition or refueling condition.

The AC power requirements for MODES 1, 2, and 3 are covered in LCO 3.8.1.

(continued)

BASES (continued)

ACTIONS

5 INSERT ACTIONS NOTE

A.1

An offsite circuit is considered inoperable if it is not available to one required ESF division. If two or more ESF 4.16 kV buses are required per LCO 3.8.10, division(s) with offsite power available may be capable of supporting sufficient required features to allow continuation of CORE ALTERATIONS, fuel movement, and operations with a potential for draining the reactor vessel. By the allowance of the option to declare required features inoperable with no offsite power available, appropriate restrictions can be implemented in accordance with the affected required feature(s) LCOs' ACTIONS.

2 emergency 2

2 4.16 kV emergency bus

8 4

9 Required features remaining capable of being powered from a qualified offsite circuit, even if that circuit is considered inoperable because it is not capable of powering other required features, are not declared inoperable by this Required Action.

that are not capable of being powered from 9

9

A.2.1, A.2.2, A.2.3, A.2.4, B.1, B.2, B.3, and B.4

per Required Action A.1

With the offsite circuit not available to all required divisions, the option still exists to declare all required features inoperable. Since this option may involve undesired administrative efforts, the allowance for sufficiently conservative actions is made. With the required DG inoperable, the minimum required diversity of AC power sources is not available. It is, therefore, required to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies in the ~~primary or~~ secondary containment~~s~~, and activities that could potentially result in inadvertent draining of the reactor vessel. 6

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize probability of the occurrence of postulated events. It is further required to initiate action immediately to restore the required AC sources and to continue this action until restoration is accomplished in order to provide the necessary AC power to the plant safety systems.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required AC electrical power sources should be completed as quickly as possible in order to minimize the time during which the plant safety systems may be without sufficient power.

(continued)

Insert ACTIONS NOTE

LCO 3.0.3 is not applicable while in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Entering LCO 3.0.3 while in MODE 1, 2, or 3 would require the unit to be shutdown, but would not require immediate suspension of movement of irradiated fuel assemblies. The Note to the ACTIONS, "LCO 3.0.3 is not applicable," ensures that the actions for immediate suspension of irradiated fuel assembly movement are not postponed due to entry into LCO 3.0.3. 2

BASES

ACTIONS

A.2.1, A.2.2, A.2.3, A.2.4, B.1, B.2, B.3, and B.4 (continued)

Pursuant to LCO 3.0.6, the Distribution System ACTIONS are not entered even if all AC sources to it are inoperable, resulting in de-energization. Therefore, the Required Actions of Condition A have been modified by a Note to indicate that when Condition A is entered with no AC power to any required ~~ESF~~ emergency 2 bus, ACTIONS for LCO 3.8.~~10~~ 8 4 must be immediately entered. This Note allows Condition A to provide requirements for the loss of the offsite circuit whether or not a division is de-energized. LCO 3.8.~~10~~ 8 provides the appropriate restrictions for the situation involving a de-energized division.

C.1

When the HPCS System 2 is required to be OPERABLE, and the ~~additional required~~ DG 10 Division 3 ~~AC source~~ is inoperable, the required diversity of AC power sources to the HPCS System is not available. Since these sources only affect the HPCS System, the HPCS System 2 is declared inoperable and the Required Actions of ~~the affected Emergency Core Cooling Systems LCO~~ 4 LCO 3.5.2, "Emergency Core Cooling Systems—Shutdown," entered.

In the event all sources of power to Division 3 are lost, Condition A will also be entered and direct that the ACTIONS of LCO 3.8.~~10~~ 8 4 be taken. If only the Division 3 ~~additional required AC source~~ DG 10 is inoperable, and power is still supplied to the HPCS System, 72 hours is allowed to restore the ~~additional required AC source~~ DG 10 to OPERABLE. This is reasonable considering the HPCS System will still perform its function, absent ~~an additional single failure~~ a loss of offsite power.
9 2

5 INSERT ACTION D

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1

SR 3.8.2.1 requires the SRs from LCO 3.8.1 that are necessary for ensuring the OPERABILITY of the AC sources in other than MODES 1, 2, and 3 10 to be applicable. SR 3.8.1.8 is not required to be met since only one offsite circuit is required to be OPERABLE. SR 3.8.1.17 is not required to be met because the required OPERABLE DG(s) is not required to undergo periods of being synchronized to the offsite circuit. SR 3.8.1.20 is excepted because starting independence is not required

(continued)

Insert ACTION D

When the SGT System, CRAF System, or Control Room Area Ventilation Air Conditioning System is required to be OPERABLE, and the required opposite unit Division 2 AC source is inoperable, the associated SGT subsystem, CRAF subsystem, and control room area ventilation air conditioning subsystem are declared inoperable and the Required Actions of the affected LCOs are entered.

The immediate Completion Time is consistent with the required times for actions requiring prompt attention. The restoration of the required opposite unit Division 2 AC electrical power source should be completed as quickly as possible in order to minimize the time during which the aforementioned safety systems are without sufficient power.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1 (continued)

with the DG(s) that is not required to be OPERABLE. Refer to the corresponding Bases for LCO 3.8.1 for a discussion of each SR.

This SR is modified by ~~a~~ two Notes. The reason for ~~the~~ Note 1 is to preclude requiring the OPERABLE DG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during the performance of SRs, ~~and to preclude deenergizing a required 4160 V ESF bus or~~ emergency ~~disconnecting a required offsite circuit during performance of SRs.~~ With limited AC sources available, a single event could compromise both the required circuit and the DG. It is the intent that these SRs must still be capable of being met, but actual performance is not required during periods when the DG and offsite circuit ~~is~~ are required to be OPERABLE.

INSERT NOTE 2

REFERENCES None.

TSTF -300

Insert NOTE 2

Note 2 states that SRs 3.8.1.12 and 3.8.1.19 are not required to be met when its associated ECCS subsystem(s) are not required to be OPERABLE. These SRs demonstrate the DG response to an ECCS initiation signal (either alone or in conjunction with a loss of offsite power signal). This is consistent with the ECCS instrumentation requirements that do not require the ECCS initiation signals when the associated ECCS subsystem is not required to be OPERABLE per LCO 3.5.2, "ECCS — Shutdown." 9

1. Typographical/grammatical error corrected.

2. Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature, number, reference, system description, analysis or licensing basis description.

3. Not used.

4. The proper LCO number has been used.

5. Changes have been made to reflect those changes made to the Specification. The following requirements have been renumbered, where applicable, to reflect the changes.

6. The brackets have been removed and the proper plant specific information/value has been provided.

7. The bracketed requirement has been deleted since it is not applicable to LaSalle 1 and 2.

8. This paragraph has been deleted since it is duplicative of the next to last paragraph in the Applicable Safety Analyses section.

9. Editorial change made for enhanced clarity or to be consistent with similar statements in other places in the Bases.

10. Changes have been made to be consistent with the Specification.

1

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.3 Diesel Fuel Oil, ~~Lube Oil,~~ and Starting Air

BASES

BACKGROUND

2

Each diesel generator (DG) is provided with a ~~storage tank having a~~ stored fuel oil capacity sufficient to operate that DG for a period of 7 days while the DG is supplying maximum post loss of coolant accident load demand (Ref. 1). The maximum load demand is calculated using the assumption that at least two DGs are available. This onsite fuel oil capacity is sufficient to operate the DGs for longer than the time to replenish the onsite supply from outside sources.

2

Fuel oil is transferred from each storage tank to its respective day tank by a transfer pump associated with each storage tank. Redundancy of pumps and piping precludes the failure of one pump, or the rupture of any pipe, valve, or tank to result in the loss of more than one DG. ~~All outside tanks, pumps, and piping are located underground.~~ All system piping and components except for fill piping and vents are located within the diesel buildings. The fuel oil level in the storage ~~tank is indicated in the control room.~~ <Insert B3.8.3 BKGD-A>

2

For proper operation of the standby DGs, it is necessary to ensure the proper quality of the fuel oil. Regulatory Guide 1.137 (Ref. 2) addresses the recommended fuel oil practices as supplemented by ANSI N195 (Ref. 3). The fuel oil properties governed by these SRs are the water and sediment content, the flash point and kinematic viscosity, specific gravity (or API gravity), and impurity level.

2

~~The DG lubrication system is designed to provide sufficient lubrication to permit proper operation of its associated DG under all loading conditions. The system is required to circulate the lube oil to the diesel engine working surfaces and to remove excess heat generated by friction during operation. Each engine oil sump contains an inventory capable of supporting a minimum of [7] days of operation. [The onsite storage in addition to the engine oil sump is sufficient to ensure 7 days continuous operation.] This supply is sufficient to allow the operator to replenish lube oil from outside sources.~~ 1

Each Division 1 and Division 2 DG has ~~an~~ two air start ~~system~~ subsystems, each with adequate capacity for five successive start ~~attempts~~s on the DG without recharging the air start receiver(s). Each Division 3 DG has two air start subsystems, each with adequate capacity for three successive starts on the DG without recharging the air start receivers. 2

(continued)

2

Insert B 3.8.3 BKGD-A

tanks is indicated locally, and each storage tank is provided with low level switches that actuate alarm annunciators in the main control room.

1

BASES (continued)

APPLICABLE SAFETY ANALYSES

3

The initial conditions of Design Basis Accident (DBA) and transient analyses in FSAR, Chapter ~~6~~ (Ref. 4) and Chapter ~~15~~ (Ref. 5), assume Engineered Safety Feature (ESF) systems are OPERABLE. The DGs are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to ESF systems so that fuel, reactor coolant system, and containment design limits are not exceeded. These limits are discussed in more detail in the Bases for Section 3.2, Power Distribution Limits; Section 3.~~4, Reactor Coolant System (RCS)~~; and Section 3.6, Containment Systems.

u 2 3

4 5, Emergency Core Cooling (ECCS) and Reactor Core Isolation Cooling (RCIC) System

Since diesel fuel oil~~, lube oil,~~ and starting air subsystems support the operation of the standby AC power sources, they satisfy Criterion 3 of the ~~NRC Policy Statement~~ 10 CFR 50.36(c)(2)(ii). 1 s 2

LCO

Stored diesel fuel oil is required to have sufficient supply for 7 days of full load operation. It is also required to meet specific standards for quality. ~~Additionally, sufficient lube oil supply must be available to ensure the capability to operate at full load for 7 days.~~ This requirement, in conjunction with an ability to obtain replacement supplies within 7 days, supports the availability of DGs required to shut down the reactor and to maintain it in a safe condition for an anticipated operational occurrence (AOO) or a postulated DBA with loss of offsite power. DG day tank fuel requirements, as well as transfer capability from the storage tank to the day tank, are addressed in LCO 3.8.1, "AC Sources—Operating," and LCO 3.8.2, "AC Sources—Shutdown." 1

The starting air system is Division 1 and 2 required to have a minimum capacity for five successive DG start ~~attempts~~s without recharging the air start receivers and three successive Division 3 DG starts. 2

APPLICABILITY 5 The AC sources ~~(LCO 3.8.1 and LCO 3.8.2)~~ are required to ensure the availability of the required power to shut down the reactor and maintain it in a safe shutdown condition after an AOO or a postulated DBA. Since stored diesel fuel oil~~, lube oil,~~ and starting air subsystems ~~support LCO 3.8.1 and LCO 3.8.2~~, stored diesel fuel oil~~, lube oil,~~ and s 2

1

(continued)

Only one air start receiver set (and associated air start header) per DG is required, since each air start receiver set has the required capacity. 2

1

BASES

APPLICABILITY (continued)

starting air are required to be within limits when the associated DG is required to be OPERABLE.

ACTIONS

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

A.1

With stored fuel oil level not within the specified limit — 5

~~In this Condition~~, the 7 day fuel oil supply for a DG is not available. However, the Condition is restricted to fuel oil level reductions that maintain at least a 6 day supply. These circumstances may be caused by events such as:

a. Full load operation required after an inadvertent start while at minimum required level; or

b. Feed and bleed operations that may be necessitated by increasing particulate levels or any number of other oil quality degradations.

This restriction allows sufficient time for obtaining the requisite replacement volume and performing the analyses required prior to addition of the fuel oil to the tank. A period of 48 hours is considered sufficient to complete restoration of the required level prior to declaring the DG inoperable. This period is acceptable based on the remaining capacity (> 6 days), the fact that ~~procedures~~ actions will be initiated to obtain replenishment, and the low probability of an event during this brief period. 2

~~B.1~~

~~With lube oil inventory < 500 gal, sufficient lube oil to support 7 days of continuous DG operation at full load conditions may not be available. However, the Condition is~~ 1

(continued)

1

BASES

ACTIONS

~~B.1 (continued)~~

~~restricted to lube oil volume reductions that maintain at least a 6 day supply. This restriction allows sufficient time for obtaining the requisite replacement volume. A period of 48 hours is considered sufficient to complete restoration of the required volume prior to declaring the DG inoperable. This period is acceptable based on the remaining capacity (> 6 days), the low rate of usage, the fact that procedures will be initiated to obtain replenishment, and the low probability of an event during this brief period.~~ 1

B
~~D~~.1 1

This Condition is entered as a result of a failure to meet the acceptance criterion for particulates. Normally, trending of particulate levels allows sufficient time to correct high particulate levels prior to reaching the limit of acceptability. Poor sample procedures (bottom sampling), contaminated sampling equipment, and errors in laboratory analysis can produce failures that do not follow a trend. Since the presence of particulates does not mean failure of the fuel oil to burn properly in the diesel engine, since particulate concentration is unlikely to change significantly between Surveillance Frequency intervals, and since proper engine performance has been recently demonstrated (within 31 days), it is prudent to allow a brief period prior to declaring the associated DG inoperable. The 7 day Completion Time allows for further evaluation, resampling, and re-analysis of the DG fuel oil. 6

C
~~D~~.1 1

1 2 With the new fuel oil properties defined in the Bases for SR 3.8.3.~~3~~ not within the required limits, a period of 30 days is allowed for restoring the stored fuel oil properties. This period provides sufficient time to test the stored fuel oil to determine that the new fuel oil, when mixed with previously stored fuel oil, remains acceptable, or to restore the stored fuel oil properties. This restoration may involve feed and bleed procedures, filtering, or a combination of these procedures. Even if a DG start and load was required during this time interval and the fuel oil 6

(continued)

1

BASES

ACTIONS

1

C.1 (continued)

properties were outside limits, there is high likelihood that the DG would still be capable of performing its intended function.

1.

D.1

1

required

200

3

With required starting air receiver pressure < [225] 200 psig, sufficient capacity for five successive DG start ~~attempts~~ does not exist. However, as long as the receiver pressure is > [125] 165 psig, there is adequate capacity for at least one start attempt, and the DG can be considered OPERABLE while the air receiver pressure is restored to the required limit. A period of 48 hours is considered sufficient to complete restoration to the required pressure prior to declaring the DG inoperable. This period is acceptable based on the remaining air start capacity, the fact that most DG starts are accomplished on the first attempt, and the low probability of an event during this brief period.

for the Division 1 or Division 2 DG or three successive starts for the Division 3 DG, as applicable,

2

3

1

E.1

of Condition A, B, C, or D

1

With a Required Action and associated Completion Time of Condition A, B, C, or D not met, or the stored diesel fuel oil, ~~lube oil,~~ or starting air subsystem not within limits of this Specification for reasons other than addressed by Conditions A through D, the associated DG may be incapable of performing its intended function and must be immediately declared inoperable.

of this Specification

5

1

1

SURVEILLANCE REQUIREMENTS

SR 3.8.3.1

This SR provides verification that there is an adequate inventory of fuel oil in the storage tanks to support each DG's operation for 7 days at full load. The 7 day period is sufficient time to place the unit in a safe shutdown condition and to bring in replenishment fuel from an offsite location.

The 31 day Frequency is adequate to ensure that a sufficient supply of fuel oil is available, since low level alarms are

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.3.1 (continued)

provided and unit operators would be aware of any large uses of fuel oil during this period.

~~SR 3.8.3.2~~

~~This Surveillance ensures that sufficient lube oil inventory is available to support at least 7 days of full load operation for each DG. The 500 gal requirement is based on the DG manufacturer's consumption values for the run time of the DG. Implicit in this SR is the requirement to verify the capability to transfer the lube oil from its storage location to the DG when the DG lube oil sump does not hold adequate inventory for 7 days of full load operation without the level reaching the manufacturer's recommended minimum level.~~

~~A 31 day Frequency is adequate to ensure that a sufficient lube oil supply is onsite, since DG starts and run times are closely monitored by the plant staff.~~

1

SR 3.8.3.~~3~~ 2 — 1

The tests ~~listed below~~ of new fuel prior to addition to the storage tanks 5 are a means of determining whether new fuel oil is of the appropriate grade and has not been contaminated with substances that would have an immediate detrimental impact on diesel engine combustion and operation. If results from these tests are within acceptable limits, the fuel oil may be added to the storage tanks without concern for contaminating the entire volume of fuel oil in the storage tanks. These tests are to be conducted prior to adding the new fuel to the storage tank(s)~~, but in no case is the time between receipt of new fuel and conducting the tests to exceed 31 days~~. 7 The tests, limits, and applicable ASTM Standards are as follows:

3

a. Sample the new fuel oil in accordance with ASTM D4057-[~~ ~~] 95 (Ref. 6);

b. Verify in accordance with the tests specified (:1) 5 in ASTM D975-[~~ ~~] 98b (Ref. 6) that the sample has an absolute specific gravity at 60/60°F of ≥ 0.83 and ≤ 0.89 (or an API gravity at 60°F of ≥ 27~~°~~ and ≤ 39~~°~~) (;2) 5 10 6 a

(continued)

BASES

SURVEILLANCE REQUIREMENTS

1

SR 3.8.3.~~3~~ 2 (continued)

kinematic viscosity at 40°C of ≥ 1.9 centistokes and ≤ 4.1 centistokes, and a flash point of ≥ 125°F; and 5 3

c. Verify that the new fuel oil has a clear and bright appearance with proper color when tested in accordance with ASTM D4176-~~[ ]~~ 93 (Ref. 6) or a water and sediment content within limits when tested in accordance with ASTM D975-98b (Ref. 6). The clear and bright with proper color test is only applicable to fuels that meet the ASTM color requirement (i.e., ASTM color 5 or less

Failure to meet any of the above limits is cause for rejecting the new fuel oil, but does not represent a failure to meet the LCO since the fuel oil is not added to the storage tanks.

~~Within 31 days~~ following the initial new fuel oil sample, the fuel oil is analyzed within 31 days following addition of the new fuel oil to the fuel oil storage tank(s) to establish that the other properties specified in Table 1 of ASTM D975-~~[ ]~~ 98b (Ref. 6) are met for new fuel oil when tested in accordance with ASTM D975-~~[ ]~~ 98b (Ref. 6), except that the analysis for sulfur may be performed in accordance with ASTM ~~D1522-[ ]~~ D4294-98 (Ref. 6) or ASTM D2622-~~[ ]~~ 98 (Ref. 6). The 31 day period is acceptable because the fuel oil properties of interest, even if not within stated limits, would not have an immediate effect on DG operation. This Surveillance ensures the availability of high quality fuel oil for the DGs. 2 3 7

Fuel oil degradation during long term storage shows up as an increase in particulate, mostly due to oxidation. The presence of particulate does not mean that the fuel oil will not burn properly in a diesel engine. However, the particulate can cause fouling of filters and fuel oil injection equipment, which can cause engine failure.

2

Particulate concentrations should be determined in accordance with ASTM ~~D2276-[ ], Method A~~ D5452-98 (Ref. 6). This method involves a gravimetric determination of total particulate concentration in the fuel oil and has a limit of 10 mg/l. It is acceptable to obtain a field sample for subsequent laboratory testing in lieu of field testing. ~~[For those designs in which the total volume of stored fuel oil is contained in two or more interconnected tanks, each tank must be considered and tested separately.]~~ 3

The Frequency of this Surveillance takes into consideration fuel oil degradation trends indicating that particulate

(continued)

1

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.3.2 (continued)

1

concentration is unlikely to change between Frequency intervals.

1
2

SR 3.8.3.1

for each Division 1 and Division 2 DG, and three engine starts for each Division 3 DG

5 2

This Surveillance ensures that, without the aid of the refill compressor, sufficient air start capacity for each DG is available. The system design requirements provide for a minimum of five engine start ~~cycles~~ without recharging. ~~[A start cycle is defined by the DG vendor, but usually is measured in terms of time (seconds of cranking) or engine cranking speed.]~~ The pressure specified in this SR is intended to ~~reflect~~ support the lowest value at which the ~~[five]~~ required number of starts can be accomplished. 3 5

3

The 31 day Frequency takes into account the capacity, capability, redundancy, and diversity of the AC sources and other indications available in the control room, including alarms, to alert the operator to below normal air start pressure.

~~SR 3.8.3.5~~

~~Microbiological fouling is a major cause of fuel oil degradation. There are numerous bacteria that can grow in fuel oil and cause fouling, but all must have a water environment in order to survive. Removal of water from the storage tanks once every 31 days eliminates the necessary environment for bacterial survival. This is the most effective means of controlling microbiological fouling. In addition, it eliminates the potential for water entrainment in the fuel oil during DG operation. Water may come from any of several sources, including condensation, ground water, rain water, contaminated fuel oil, and from breakdown of the fuel oil by bacteria. Frequent checking for and removal of accumulated water minimizes fouling and provides data regarding the watertight integrity of the fuel oil system. The Surveillance Frequencies are established by Regulatory Guide 1.137 (Ref. 2). This SR is for preventive maintenance. The presence of water does not necessarily represent a failure of this SR provided that accumulated water is removed during performance of the Surveillance.~~ 1

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

~~SR 3.8.3.6~~

~~Draining of the fuel oil stored in the supply tanks, removal of accumulated sediment, and tank cleaning are required at 10 year intervals by Regulatory Guide 1.137 (Ref. 2), paragraph 2.f. This SR is typically performed in conjunction with the ASME Boiler and Pressure Vessel Code, Section XI (Ref. 7), examinations of the tanks. To preclude the introduction of surfactants in the fuel oil system, the cleaning should be accomplished using sodium hypochlorite solutions, or their equivalent, rather than soap or detergents. This SR is for preventive maintenance. The presence of sediment does not necessarily represent a failure of this SR provided that accumulated sediment is removed during performance of the Surveillance.~~

TSTF-2

REFERENCES

1. UFSAR, Section ~~[~~9.5.4~~]~~. 3
2. Regulatory Guide 1.137.
3. ANSI N195, Appendix B, 1976.
4. UFSAR, Chapter ~~[~~6~~]~~. 3
5. UFSAR, Chapter ~~[~~15~~]~~. 3
6. ASTM Standards: D4057-[95]; D975-[98b]; D4176-[93]; ~~D975-[ ]~~; ~~D1552-[ ]~~; D2622-[98]; ~~D2276-[ ]~~; D4294-98; D5452-98

2 3 6 2 1

7. ~~ASME, Boiler and Pressure Vessel Code, Section XI.~~ TSTF-002

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS BASES: 3.8.3 - DIESEL FUEL OIL and STARTING AIR

1. Changes have been made to reflect those changes made to the Specification.

2. Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature, number, reference, system description, or analysis description.

3. The brackets have been removed and the proper plant specific information/value has been provided.

4. This change has been made since Section 3.5, "ECCS and RCIC System," provides the appropriate limits that are affected by the systems in this LCO.

5. Editorial change made for enhanced clarity or to be consistent with similar statements in other places in the Bases.

6. Typographical/grammatical error corrected.

7. Changes have been made to be consistent with the Specification.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.4 DC Sources—Operating

All changes are 1 unless otherwise indicated

BASES

BACKGROUND

The station DC electrical power system provides the AC emergency power system with control power. It also provides both motive and control power to selected safety related equipment. As required by 10 CFR 50, Appendix A, GDC 17 (Ref. 1), the DC electrical power system is designed to have sufficient independence, redundancy, and testability to perform its safety functions, assuming a single failure. The DC electrical power system also conforms to the requirements of Regulatory Guide 1.6 (Ref. 2) and IEEE-308 (Ref. 3).

The 125 VDC electrical power system consists of three independent Class 1E DC electrical power subsystems, Divisions 1, 2, and 3. The 250 VDC electric power system consists of one Class 1E DC electrical power subsystem, Division 1. Each subsystem consists of a battery, associated battery charger(~~s~~), and all the associated control equipment and interconnecting cabling.

During normal operation, the DC loads are powered from the battery chargers with the batteries floating on the system. In case of loss of normal power to the battery charger, the DC loads are automatically powered from the ~~Engineered Safety Feature (ESF)~~ batteries.

Insert B3.8.4 BKGD-A

~~Each of the Division 1 and 2 electrical power subsystems provides the control power for its associated Class 1E AC power load group, 4.16 kV switchgear, and 480 V load centers. Also, these DC subsystems provide DC electrical power to the inverters, which in turn power the AC vital buses. The Division 3 DC electrical power subsystem provides DC motive and control power as required for the High Pressure Core Spray (HPCS) System diesel generator (DG) set control and protection.~~

The DC power distribution system is described in more detail in the Bases for LCO 3.8.~~9~~ 8, "Distribution Systems—Operating," and LCO 3.8.~~10~~ 8, "Distribution ~~Systems~~ 7 Systems—Shutdown." 2

Each ~~Division 1 and 2~~ Division 1, 2, and 3 battery has adequate storage capacity to carry the required load continuously for at least 4 hours ~~and to perform three complete cycles of intermittent loads~~ as discussed in the U FSAR, Section ~~[8.3.2]~~ (Ref. 4). 3

(continued)

Insert B 3.8.4 BKGD-A

The Division 1 safety related DC power source consists of one 125 V and one 250 V battery bank and associated full capacity battery chargers (one per battery bank). The Division 1 125 V DC power source provides the control power for its associated Class 1E AC power load group, 4.16 kV switchgear, and 480 V load centers and control power for non-Class 1E loads. Also, the 125 V DC power sources provide DC power to the emergency lighting system, diesel generator (DG) auxiliaries, and the DC control power for the Engineered Safety Feature (ESF) and non-ESF systems. The 250 V DC power source supplies power to the Reactor Core Isolation Cooling (RCIC) System, and RCIC primary containment isolation valves (PCIVs). It also supplies power to the main turbine emergency bearing oil pumps, main generator emergency seal oil pumps, and the process computer, however, these are not Technical Specification related loads.

The Division 2 safety related DC power source consists of a 125 V battery bank and associated full capacity charger. This 125 V battery provides the control power for its associated Class 1E AC power load group, 4.16 kV switchgear, and 480 V load centers and control power for non-Class 1E loads. Also, this 125 V battery provides DC power to the emergency lighting system, diesel generator (DG) auxiliaries, and the DC control power for ESF and non-ESF systems.

The Division 3 safety related DC power source consists of a 125 V battery bank and associated full capacity charger, and provides power for the High Pressure Core Spray (HPCS) DG field flashing control logic and switching function of 4.16 kV Division 3 breakers. It also provides power for the HPCS System logic, HPCS DG control and protection, and Division 3 related controls.

The opposite unit Division 2 safety related DC power source consists of a 125 V battery bank and associated full capacity charger. This 125 V battery provides the control power for its associated Class 1E AC power load group, 4.16 kV switchgear, and 480 V load centers and control power for non-Class 1E loads. Also, this 125 V battery provides DC power to the opposite unit's emergency lighting system, diesel generator (DG) auxiliaries, and DC control power for the ESF and non-ESF systems.

BASES

All changes are 1 unless otherwise indicated

BACKGROUND (continued)

~~The Division 3 battery has adequate storage to carry the required load continuously for at least 2 hours (Ref. 4).~~

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 a DC electrical power subsystem are sized to produce required capacity at 80% of nameplate rating, corresponding to warranted capacity at end of life cycles and the 100% design demand. The voltage design limit is 1.81 ~~1.75~~ V per cell (Ref. 4).

Each battery charger of Division 1, 2 and 3 ~~of Division 1 and 2~~ 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 bank from the design minimum charge to its fully charged state ~~within 12 hours~~ while supplying normal steady state loads (Ref. 4).

~~The battery charger of Division 3 DC electrical power subsystem has sufficient capacity to restore the battery bank from the design minimum charge to its fully charged state in 8 hours while supplying normal steady state loads (Ref. 4).~~ 3

APPLICABLE SAFETY ANALYSES

The initial ~~conditions~~ of Design Basis Accident (DBA) ~~and~~ transient ~~analyses~~ in the FSAR, Chapter ~~[6]~~ (Ref. 5) ~~, and Chapter [15] (Ref. 6),~~ assume that ESF systems are OPERABLE. 4
The DC electrical power system provides normal and emergency DC electrical power for the DGs, 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

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

maintaining DC sources OPERABLE during accident conditions in the event of:

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

b. A worst case single failure.

1

The DC sources satisfy Criterion 3 of ~~the NRC Policy Statement~~ 10 CFR 50.36 (c)(2)(ii).

LCO

Division 1, 2, and 3, and opposite unit Division 2

5

The DC electrical power subsystems, each subsystem consisting of one battery, one battery charger, and the corresponding control equipment and interconnecting cabling supplying power to the associated bus within the divisions, 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. 4).

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 and other conditions in which the DC electrical power sources are required are addressed in ~~the Bases for~~ LCO 3.8.5, "DC Sources—Shutdown."

4

6

(continued)

BASES (continued)

ACTIONS

A.1

Condition A represents 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. 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 2 hour limit is consistent with the allowed time for an inoperable DC distribution system division.

1 3

If one of the ~~required~~ [Division 1 or 2] 125 V DC electrical power subsystems is inoperable (e.g., inoperable battery, inoperable battery charger, or inoperable battery charger and associated inoperable battery), the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. Since a subsequent worst case single failure could, however, result in the loss of minimum necessary DC electrical subsystems, continued power operation should not exceed 2 hours. The 2 hour Completion Time is based on Regulatory Guide 1.93 (Ref. 7) 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.

B.1

5 its

With the Division 3 DC electrical power subsystem inoperable, the HPCS ~~and 2C Standby Service Water~~ System may be incapable of performing ~~their~~ its intended function~~s~~ and must be immediately declared inoperable. This declaration also requires entry into applicable Conditions and Required Actions of LCO 3.5.1, "ECCS—Operating." ~~[and LCO 3.7.1, "Standby Service Water (SSW)] System and [Ultimate Heat Sink (UHS)"]]~~.

5

{<Insert C.1>
<Insert D.1>

5

~~C~~E.1 and ~~C~~E.2

If the DC electrical power subsystem cannot be restored to OPERABLE status within the associated Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to

(continued)

Insert C.1

C.1

With the Division 1 250 V DC electrical power subsystem inoperable, the RCIC System and the RCIC DC powered PCIVs may be incapable of performing their intended functions and must be immediately declared inoperable. This declaration also requires entry into applicable Conditions and Required Actions of LCO 3.5.3, "RCIC System," and LCO 3.6.1.3, "PCIVs."

Insert D.1

D.1

If the opposite unit Division 2 125 V DC electrical power subsystem is inoperable (e.g., inoperable battery, inoperable charger, or inoperable battery charger and associated battery), certain redundant Division 2 features (e.g., a standby gas treatment subsystem) will not function if a design basis event were to occur. Therefore, a 7 day Completion Time is provided to restore the opposite unit Division 2 125 V DC electrical power subsystem to OPERABLE status. The 7 day Completion Time takes into account the capacity and capability of the remaining DC electrical power subsystems, and is based on the shortest restoration time allowed for the systems affected by the inoperable DC electrical power subsystem in the respective system specifications.

BASES

All changes are 1 unless otherwise indicated

ACTIONS 5 E E D.1 and D.2 (continued)

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~~ specified 4 in Regulatory Guide 1.93 (Ref. 7).

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1 <Insert SR Notes> 5

Verifying battery terminal voltage while on float charge 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 required to overcome the internal losses of a battery ~~(or battery cell)~~ 4 and maintain the battery ~~(or battery cell)~~ in a fully charged state. The voltage requirements are based on the nominal design voltage of the battery and are ~~consistent~~ conservative when compared 4 with the initial voltages assumed in the battery sizing calculations. The 7 day Frequency is consistent with manufacturer's recommendations and IEEE-450 (Ref. 8).

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 ~~, inter-rack, inter-tier,~~ 5 and terminal connection, provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

4 The connection resistance limits established for this SR ~~must be no more than 20% above the resistance as measured during installation, or not above the ceiling value~~ are within the values established by the ~~manufacturer~~ industry practice.

The Surveillance 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.

The connection resistance limits of this SR are related to the resistance of individual bolted connections, and do not include the resistance of conductive components (e.g., cables or conductors located between cells, racks, or tiers).

(continued)

Insert SR Notes

The Surveillances are modified by two Notes to clearly identify how the Surveillances apply to the given unit and opposite unit DC electrical power sources. Note 1 states that SR 3.8.4.1 through SR 3.8.4.8 are applicable only to the given unit DC electrical power sources and Note 2 states that SR 3.8.4.9 is applicable to the opposite unit DC electrical power sources. These Notes are necessary since opposite unit DC electrical power sources are not required to perform all of the requirements of the given unit DC electrical power sources (e.g., the opposite unit battery is not required to perform SR 3.8.4.6, SR 3.8.4.7, and 3.8.4.8 under certain conditions when not in MODE 1, 2, or 3).

BASES

SURVEILLANCE REQUIREMENTS (continued)

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.

<Insert SR 3.8.4.3> TSTF-38

~~The 12 month Frequency of this SR is consistent with IEEE-450 (Ref. 8), which recommends detailed visual inspection of cell condition and inspection of cell to cell and terminal connection resistance on a yearly basis.~~ 3

SR 3.8.4.4 and SR 3.8.4.5

Visual inspection and resistance measurements of inter-cell, inter-rack, inter-tier, 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 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. 5

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.

7 ~~Reviewer's Note: The requirement to verify that terminal connections are clean and tight applies only to nickel cadmium batteries as per IEEE Standard P1106, "IEEE Recommended Practice for Installation, Maintenance, Testing and Replacement of Vented Nickel - Cadmium Batteries for Stationary Applications." This requirement may be removed for lead acid batteries.~~

1 The connection resistance limits for this SR are within the values ~~must be no more than 20% above the resistance as measured during installation, or not above the ceiling value~~ established by industry practice ~~the manufacturer~~.

3 ~~The 12 month Frequency of these SRs is consistent with IEEE-450 (Ref. 8), which recommends detailed visual inspection of cell condition and inspection of cell to cell and terminal connection resistance on a yearly basis.~~

<INSERT SR 3.8.4.4>

1 The connection resistance limits of this SR are related to the resistance of individual bolted connections, and do not include the resistance of conductive components (e.g., cables or conductors located between cells, racks, or tiers).

(continued)

Insert SR 3.8.4.3

TSTF-38

The presence of physical damage or deterioration does not necessarily represent a failure of this SR, provided an evaluation determines that the physical damage or deterioration does not affect the OPERABILITY of the battery (its ability to perform its design function).

The 24 month Frequency for the Surveillance is based on engineering judgement. Operating experience has shown that these components usually pass the SR when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. 3

Insert SR 3.8.4.4

The 24 month Frequency for the Surveillance is based on engineering judgement. Operating experience has shown that these components usually pass the SR when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.4.6

Battery charger capability requirements are based on the design capacity of the chargers (Ref. 4). According to Regulatory Guide 1.32 (Ref. 9), 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 ensure that these requirements can be satisfied.

The Surveillance Frequency is acceptable, given ~~the unit conditions required to perform the test and~~ the ~~other~~ administrative controls existing to ensure adequate charger performance during these ~~18~~ 24 month intervals. In addition, this Frequency is intended to be consistent with expected fuel cycle lengths. 1 5

~~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.~~ 5 8

TSTF 8 not adopted

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 correspond to the design duty cycle requirements as specified in Reference 4.

5 <Insert SR3.8.4.7>

The Surveillance Frequency of ~~18~~ 24 months is ~~consistent with the recommendations of Regulatory Guide 1.32 (Ref. 9) and Regulatory Guide 1.129 (Ref. 10), 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.~~ 5

This SR is modified by ~~two Notes. Note 1 allows~~ a Note. The reason for the Note is to allow the performance of a modified performance discharge test in lieu of a service test ~~once per 60 months.~~ provided the modified performance discharge test completely envelops the service test. This substitution is acceptable because a modified performance discharge test represents a more severe test of battery capacity than SR 3.8.4.7 5

(continued)

Insert SR 3.8.4.7

acceptable, given unit conditions required to perform the test and the other requirements existing to ensure adequate battery performance during these 24 month intervals. In addition, this Frequency is intended to be consistent with expected fuel cycle lengths.

(The test can consist of a single rate if the rate employed for the performance discharge test exceeds the one minute rate.) To ensure the modified performance discharge test completely envelops the service test duty cycle, additional loads and durations of the duty cycle may be added to the modified performance discharge test prior to the constant current rate. 1

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.7 (continued) 9

The modified performance discharge test is a simulated duty cycle consisting of just two rates; the one minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance test, both of which envelope the duty cycle of the service test. Since the ampere-hours removed by a rated one minute discharge represents a very small portion of the battery capacity, the test rate can be changed to that for the performance test without compromising the results of the performance discharge test. The battery terminal voltage for the modified performance discharge test should remain above the minimum battery terminal voltage specified in the battery service test for the duration of time equal to that of the service test. 9

1 normally discharge

1 when the modified performance discharge test is performed in lieu of a service test

performance 4

A modified discharge test is a test of the battery capacity and its ability to provide a high rate, short duration load (usually the highest rate of the duty cycle). This will often confirm the battery's ability to meet the critical period of the load duty cycle, in addition to determining its percentage of rated capacity. Initial conditions for the modified performance discharge test should be identical to those specified for a service test.

~~The reason for Note 2 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.~~ 5

TSTF-8 not adopted

SR 3.8.4.8 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.

A battery modified performance discharge test is ~~described in the Bases for SR 3.8.4.7.~~ 9 Either the battery performance discharge test or the modified performance discharge test is

(continued)

1)Since IEEE-485 (Ref. 11) recommends using an ageing factor of 125% in the battery sizing calculation

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.8 (continued)

acceptable for satisfying SR 3.8.4.8; however, only the modified performance discharge test may be used to satisfy SR 3.8.4.8 while satisfying the requirements of SR 3.8.4.7 at the same time.

The acceptance criteria for this Surveillance is consistent with IEEE-450 (Ref. 8) and IEEE-485 (Ref. 11). 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 Surveillance Frequency for this test is normally 60 months. If the battery shows degradation, or if the battery has reached 85% of its expected life and capacity is < 100% of the manufacturer's rating, the Surveillance Frequency is reduced to 12 months. However, if the battery shows no degradation but has reached 85% of its expected life, the Surveillance Frequency is only reduced to 24 months for batteries that retain capacity ≥ 100% of the manufacturer's rating. Degradation is indicated, ~~according~~ consistent with 1 ~~to~~ IEEE-450 (Ref. 8), when the battery capacity drops by more than 10% relative to its capacity on the previous performance test in the previous 72 months 1 or when it is ≥ 10% below the manufacturer's rating. ~~All these~~ The 12 month and 60 month Frequencies are consistent with the recommendations in IEEE-450 (Ref. 8). 1 The 24 month Frequency is derived from the recommendations of IEEE-450 (Ref. 8) 1

8 BWR-38 not adopted ~~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.~~ 5

5 <Insert B SR 3.8.4.9>

REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. Regulatory Guide 1.6, March 10, 1971.
3. IEEE Standard 308, ~~1978~~ 1971. 1
4. ~~U~~FSAR, Section {8.3.2}. 3 1

(continued)

Insert SR 3.8.4.9

SR 3.8.4.9

With the exception of this Surveillance, all other Surveillances of this Specification (SR 3.8.4.1 through 3.8.4.8) are applied to the given unit DC sources. This Surveillance is provided to direct that appropriate Surveillances for the required opposite unit DC source are governed by the applicable opposite unit Technical Specifications. Performance of the applicable opposite unit Surveillances will satisfy the opposite unit requirements as well as satisfy the given unit Surveillance Requirement.

The Frequency required by the applicable opposite unit SR also governs performance of that SR for the given unit.

As noted, if the opposite unit is in MODE 4 or 5, or moving irradiated fuel assemblies in secondary containment, SR 3.8.4.6, SR 3.8.4.7, and SR 3.8.4.8 are not required to be performed. This ensures that a given unit SR will not require an opposite unit SR to be performed, when the opposite unit Technical Specifications exempts performance of an opposite unit SR (however, as stated in the opposite unit SR 3.8.5.1 Note 1, while performance of an SR is exempted, the SR must still be met).

BASES

REFERENCES (continued)

5. FSAR, Chapter ~~{6}~~. U 1

6. FSAR, Chapter ~~{15}~~. 3

7. Regulatory Guide 1.93, December 1974.

8. IEEE Standard 450, 1987.

9. Regulatory Guide 1.32, ~~February 1977~~ August 1972. 1

~~10. Regulatory Guide 1.129, December 1974.~~ 1

~~11.~~ 10 IEEE Standard 485, 1978. 1

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS BASES: 3.8.4 - DC SOURCES — OPERATING

1. Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature, number, reference, system description, or analysis description.

2. The proper LaSalle 1 and 2 plant specific LCO number has been provided.

3. The brackets have been removed and the proper plant specific information/value has been provided.

4. Editorial change made for enhanced clarity or to be consistent with similar statements in other places in the Bases.

5. Changes have been made to reflect those changes made to the Specification. The following requirements have been renumbered, where applicable, to reflect the changes.

6. This change has been made to be consistent with the Applicability of LCO 3.8.5.

7. This Reviewer's Note has been deleted. This information is for the NRC reviewer to be keyed in to what is needed to meet the requirement. This is not meant to be retained in the final version of the plant specific submittal.

8. TSTF-8 change to the Bases has not been adopted since TSTF-8 has not been incorporated into the Specification.

9. The description of a modified performance discharge test has been moved to SR 3.8.4.8 Bases. This was done since SR 3.8.4.8 is the SR that requires the modified performance discharge test. Due to this move, the references to the service test have been replaced with the performance discharge test. In addition, the reason Note 1 of SR 3.8.4.7 is acceptable has been provided.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.5 DC Sources—Shutdown

BASES

BACKGROUND

A description of the DC sources is provided in the Bases for LCO 3.8.4, "DC Sources—Operating."

APPLICABLE SAFETY ANALYSES

U 1

The initial conditions of Design Basis Accident and transient analyses in the FSAR, Chapter [6] (Ref. 1) and Chapter [15] (Ref. 2), assume that Engineered Safety Feature systems are OPERABLE. The DC electrical power system provides normal and emergency DC electrical power for the diesel generators, emergency auxiliaries, and control and switching during all MODES of operation.

and during movement of irradiated fuel assemblies in the secondary containment 1

The OPERABILITY of the DC subsystems is consistent with the initial assumptions of the accident analyses and the requirements for the supported systems' OPERABILITY.

The OPERABILITY of the minimum DC electrical power sources during MODES 4 and 5 and during movement of irradiated fuel assemblies ensures that:

1 in the secondary containment.

a. The facility can be maintained in the shutdown or refueling condition for extended periods;

b. Sufficient instrumentation and control capability is available for monitoring and maintaining the unit status; and

c. Adequate DC electrical power is provided to mitigate events postulated during shutdown, such as an inadvertent draindown of the vessel or a fuel handling accident.

The DC sources satisfy Criterion 3 of ~~the NRC Policy Statement~~.

10CFR50.36(c)(2)(ii) 1

LCO

The DC electrical power subsystems, each consisting of ~~two~~ battery ~~banks~~ [one ~~or two~~] battery charger~~[s]~~, and

One 2 1 2

(continued)

BASES

LCO (continued)

the corresponding control equipment and interconnecting cabling within the division, are required to be OPERABLE to support required divisions of Distribution System divisions required OPERABLE by LCO 3.8.10, "Distribution Systems—Shutdown." This ensures the availability of sufficient DC electrical power sources to operate the unit in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents and inadvertent reactor vessel draindown).

supplying power to the associated buses

DC 3 B 4 3

APPLICABILITY

The DC electrical power sources required to be OPERABLE in MODES 4 and 5 and during movement of irradiated fuel assemblies in the [primary or secondary containment] provide assurance that: 2

a. Required features to provide adequate coolant inventory makeup are available for the irradiated fuel assemblies in the core in case of an inadvertent draindown of the reactor vessel;

b. Required features needed to mitigate a fuel handling accident are available;

c. Required features necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and

d. Instrumentation and control capability is available for monitoring and maintaining the unit in a cold shutdown condition or refueling condition.

The DC electrical power requirements for MODES 1, 2, and 3 are covered in LCO 3.8.4.

Insert B 3.8.5 Action 5

Insert Actions A.1 and A.2 5

ACTIONS

B ~~A.1, A.2.1, A.2.2, A.2.3, and A.2.4~~

If more than one DC distribution subsystem is required according to LCO 3.8.10, the DC subsystems remaining OPERABLE with one or more DC power sources inoperable may be capable of supporting sufficient required features to allow continuation of CORE ALTERATIONS, fuel movement, and operations with a potential for draining the reactor vessel.

electrical power subsystems

8 4 3

(continued)

Insert B 3.8.5 ACTION

LCO 3.0.3 is not applicable while in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Entering LCO 3.0.3 while in MODE 1, 2, or 3 would require the unit to be shutdown, but would not require immediate suspension of movement of irradiated fuel assemblies. The Note to the ACTIONS, "LCO 3.0.3 is not applicable," ensures that the actions for immediate suspension of irradiated fuel assembly movement are not postponed due to entry into LCO 3.0.3. 1

Insert ACTIONS A.1 and A.2

With one or more required Division 1, 2, and 3 DC electrical power subsystems inoperable, the associated DC electrical power distribution subsystem may not be capable of supporting its required features. However, if the opposite unit's DC electrical power subsystem for the same division is OPERABLE, power can be supplied by the OPERABLE opposite unit DC electrical power subsystem. This will maintain the given unit's DC electrical power distribution subsystem energized from an OPERABLE DC electrical power subsystem, ensuring it remains capable of supporting its required features. Therefore, Required Action A.1 requires verification within 1 hour that the associated DC electrical power distribution subsystem is energized by the OPERABLE opposite unit DC electrical power subsystem. If this cannot be verified within 1 hour, then Condition B is required to be entered and its Required Actions taken. If this can be verified, then operation in the condition is allowed to continue and the inoperable Division 1, 2, and 3 DC electrical power subsystems must be restored to OPERABLE status (and the associated DC electrical power distribution subsystem must be realigned to its unit DC electrical power subsystem) within 72 hours. The Completion Time is acceptable since the opposite unit's DC electrical power subsystem is capable of powering both unit's loads in the event of an accident on the opposite unit and the low probability of an accident occurring during this time. As noted, this allowance is only applicable if the opposite unit is not in MODE 1, 2, or 3. This allowance can not be used with the opposite unit in MODES 1, 2, and 3 since the associated subsystems are required the support the OPERABILITY of opposite unit safety equipment. The Division 2 DC electrical power source subsystem for each unit supports redundant safety equipment for both units and the batteries have insufficient capacity to support the required loads for both units if either unit is in MODE 1, 2, or 3. Therefore, this allowance is only permitted to be used when both units are in shutdown conditions (MODE 4, 5, or defueled) when divisional separation is not required.

BASES

ACTIONS

5 B A.1, A.2.1, A.2.2, A.2.3, and A.2.4 (continued)

By allowing the option to declare ~~required features~~ electrical power subsystems 3 inoperable with associated DC power source(s) 3 inoperable, appropriate restrictions are implemented in accordance with the affected system LCOs' ACTIONS. However, In many instances this option may involve undesired administrative efforts. Therefore, the allowance for sufficiently conservative actions is made (i.e., to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies in the secondary containment 3, and any activities that could result in inadvertent draining of the reactor vessel).

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability of the occurrence of postulated events. It is further required to immediately initiate action to restore the required DC electrical power subsystems and to continue this action until restoration is accomplished in order to provide the necessary DC electrical power to the plant safety systems.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required DC electrical power subsystems should be completed as quickly as possible in order to minimize the time during which the plant safety systems may be without sufficient power.

SURVEILLANCE REQUIREMENTS

SR 3.8.5.1

SR 3.8.5.1 requires ~~performance of~~ all Surveillances 6 to be applicable required by SR 3.8.4.1 through SR 3.8.4.~~8~~ 9 5. Therefore, see the corresponding Bases for LCO 3.8.4 for a discussion of each SR.

This SR is modified by a Note. The reason for the Note is to preclude requiring the OPERABLE DC sources from being discharged below their capability to provide the required power supply or otherwise rendered inoperable during the performance of SRs. It is the intent that these SRs must still be capable of being met, but actual performance is not required.

(continued)

BASES (continued) U 1

REFERENCES

1. FSAR, Chapter ~~[6]~~.
2. FSAR, Chapter ~~[15]~~.

2

1. Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature, number, reference, system description, or analysis description.

2. The brackets have been removed and the proper plant specific information/value has been provided.

3. Editorial change made for enhanced clarity or to be consistent with similar statements in other places in the Bases.

4. The proper LCO number has been provided.

5. Changes have been made to reflect those changes made to the Specification. The change related to the ACTIONS Note is also consistent with TSTF-36, Rev. 3.

6. Changes have been made to be consistent with the Specification.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.6 Battery Cell Parameters

BASES

BACKGROUND

This LCO delineates the limits on electrolyte temperature, level, float voltage, and specific gravity for the DC power source batteries. A discussion of these batteries and their OPERABILITY requirements is provided in the Bases for LCO 3.8.4, "DC Sources—Operating," and LCO 3.8.5, "DC Sources—Shutdown."

APPLICABLE SAFETY ANALYSES

u 1

The initial conditions of Design Basis Accident (DBA) and transient analyses in FSAR, Chapter {6} (Ref. 1) and Chapter {15} (Ref. 2), assume Engineered Safety Feature systems are OPERABLE. The DC electrical power subsystems provide normal and emergency DC electrical power for the diesel generators, emergency auxiliaries, and control and switching during all MODES of operation. 2

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 at least one division of DC sources OPERABLE during accident conditions, in the event of:~~

3 as discussed in the Bases for LCO 3.8.4 and LCO 3.8.5

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

~~b. A worst case single failure.~~

Since battery cell parameters support the operation of the DC power sources, they satisfy Criterion 3 of ~~the NRC Policy Statement~~. 10 CFR 50.36(c)(2)(ii) 1

LCO

Battery cell parameters must remain within acceptable limits to ensure availability of the required DC power to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence or a postulated DBA. Electrolyte limits are conservatively established, allowing continued DC electrical system function even with limits not met.

(continued)

BASES (continued)

these cell parameters are 4

APPLICABILITY

associated 4

The battery cell parameters are required solely for the support of the associated DC electrical power subsystem. Therefore, ~~battery electrolyte is~~ only required when the DC ~~power source~~ is required to be OPERABLE. Refer to the Applicability discussion in Bases for LCO 3.8.4 and LCO 3.8.5.

4 electrical power subsystem

TSTF -203

5

<insert ACTIONS>

ACTIONS

A.1, A.2, and A.3

With parameters of one or more cells in one or more batteries not within limits (i.e., Category A limits not met, Category B limits not met, or Category A and B limits not met) but within the Category C limits specified in Table 3.8.6-1, the battery is degraded but there is still sufficient capacity to perform the intended function. Therefore, the affected battery is not required to be considered inoperable solely as a result of Category A or B limits not met, and continued operation is permitted for a limited period.

Table 3.8.6-1

4

(s) 4

The pilot cell electrolyte level and float voltage are required to be verified to meet Category C limits within 1 hour (Required Action A.1). This check provides a quick indication of the status of the remainder of the battery cells. One hour provides time to inspect the electrolyte level and to confirm the float voltage of the pilot cell (s). 4
One hour is considered a reasonable amount of time to perform the required verification.

Verification that the Category C limits are met (Required Action A.2) provides assurance that, during the time needed to restore the parameters to the Category A and B limits, the battery is still capable of performing its intended function. A period of 24 hours is allowed to complete the initial verification because specific gravity measurements must be obtained for each connected cell. Taking into consideration both the time required to perform the required verification and the assurance that the battery cell parameters are not severely degraded, this time is considered reasonable. The verification is repeated at 7 day intervals until the parameters are restored to Category A and B limits. This periodic verification is consistent with the normal Frequency of pilot cell Surveillances.

(continued)

Insert ACTIONS

The ACTIONS Table is modified by a Note which indicates that separate Condition entry is allowed for each battery. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable DC electrical power subsystem. Complying with the Required Actions for one inoperable DC electrical power subsystem may allow for continued operation, and subsequent inoperable DC electrical power subsystem(s) are governed by separate Condition entry and application of associated Required Actions.

BASES

ACTIONS

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

Continued operation is only permitted for 31 days before battery cell parameters must be restored to within Category A and B limits. Taking into consideration that while battery capacity is degraded, sufficient capacity exists to perform the intended function and to allow time to fully restore the battery cell parameters to normal limits, this time is acceptable for operation prior to declaring the

4 associated

DC batteries inoperable.

B.1

Table 3.8.6-1 4

When any battery parameter is outside the Category C limit for any connected cell, sufficient capacity to supply the maximum expected load requirement is not assured and the corresponding DC electrical power subsystem must be declared inoperable. Additionally, other potentially extreme conditions, such as ~~not completing the~~ any Required Actions of Condition A ~~within the required~~ not met Completion Time, or average electrolyte temperature of representative cells ~~falling below~~ < 60°F, also are cause for immediately declaring the and associated associated DC electrical power subsystem inoperable. 4

for the 125V batteries, or < 65°F for the 250V battery 5

5

SURVEILLANCE REQUIREMENTS

SR 3.8.6.1

Table 3.8.6-1 4

The SR verifies that Category A battery cell parameters are consistent with IEEE-450 (Ref. 3), which recommends regular battery inspections (at least one per month) including voltage, specific gravity, and electrolyte ~~temperature~~ level of pilot cells. 6

SR 3.8.6.2

, and electrolyte level for each connected cell

The quarterly inspection of specific gravity ~~and~~ voltage is 4 consistent with IEEE-450 (Ref. 3). In addition, within ~~24 hours~~ 7 days of a battery discharge < ~~110~~ V for a 125V battery and < 220V for the 250V battery or a battery overcharge > ~~150~~ V for a 125V battery and > 300V for the 250V battery, the battery must be demonstrated to meet Table 3.8.6-1 Category B limits. Transients, such as motor starting transients, which may momentarily cause battery voltage to drop to ≤ ~~110~~ V or 220V, as applicable, do not constitute a battery discharge provided the battery terminal voltage and float current 2

5 4 5

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.6.2 (continued)

return to pre-transient values. This inspection is also consistent with IEEE-450 (Ref. 3), which recommends special inspections following a severe discharge or overcharge, to ensure that no significant degradation of the battery occurs as a consequence of such discharge or overcharge.

5 The 7 day requirement is based on engineering judgement.

SR 3.8.6.3

5 for the 125V batteries and ≥ 65°F for the 250V battery

This Surveillance verification that the average temperature of representative cells is ≥ 60°F is consistent with a recommendation of IEEE-450 (Ref. 3), which states that the temperature of electrolytes in representative cells should be determined on a quarterly basis.

1 For this SR, a check of 10 connected cells is considered representative for the 125 V batteries, and a check of 20 connected cells is considered representative for the 250 V battery.

Lower than normal temperatures act to inhibit or reduce battery capacity. This SR ensures that the operating temperatures remain within an acceptable operating range. This limit is based on manufacturer's recommendations

1 and the battery sizing calculations

Table 3.8.6-1

6 This ~~table~~ delineates the limits on electrolyte level, float voltage, and specific gravity for three different categories. The meaning of each category is discussed below.

Category A defines the normal parameter limit for each designated pilot cell in each battery. The cells selected as pilot cells are those whose temperature, voltage, and electrolyte specific gravity approximate the state of charge of the entire battery.

6

The Category A limits specified for electrolyte level are based on manufacturer's recommendations and are consistent with the guidance in IEEE-450 (Ref. 3), with the extra ¼ inch allowance above the high water level indication for operating margin to account for temperatures and charge effects. In addition to this allowance, footnote (a) to Table 3.8.6-1 permits the electrolyte level to be temporarily above the specified maximum level during and following an equalizing charge (i.e. for up to 3 days following the completion of an equalize charge), provided it is not overflowing. These limits ensure that the plates suffer no physical damage, and that adequate electron

(a) 4

5

(continued)

BASES

SURVEILLANCE REQUIREMENTS

Table 3.8.6-1 (continued)

transfer capability is maintained in the event of transient conditions. IEEE-450 (Ref. 3) recommends that electrolyte level readings should be made only after the battery has been at float charge for at least 72 hours.

The Category A limit specified for float voltage is ≥ 2.13 V per cell. This value is based on the recommendation of IEEE-450 (Ref. 3), which states that prolonged operation of cells below 2.13 V can reduce the life expectancy of cells.

5

1.200

The Category A limit specified for specific gravity for each pilot cell is ≥ ~~1.195~~ (0.015 below the manufacturer's fully charged nominal specific gravity or a battery charging current that had stabilized at a low value). This value is characteristic of a charged cell with adequate capacity. According to IEEE-450 (Ref. 3), the specific gravity readings are based on a temperature of 77°F (25°C).

The specific gravity readings are corrected for actual electrolyte temperature and level. For each 3°F (1.67°C) above 77°F (25°C), 1 point (0.001) is added to the reading; 1 point is subtracted for each 3°F below 77°F. The specific gravity of the electrolyte in a cell increases with a loss of water due to electrolysis or evaporation. Level correction will be in accordance with manufacturer's 6 recommendations.

Category B defines the normal parameter limits for each connected cell. The term "connected cell" excludes any battery cell that may be jumpered out.

5 1.195 1.205

The Category B limits specified for electrolyte level and float voltage are the same as those specified for Category A and have been discussed above. The Category B limit specified for specific gravity for each connected cell is ≥ ~~1.190~~ (0.020 below the manufacturer's fully charged, nominal specific gravity) with the average of all connected cells > ~~1.200~~ (0.010 below the manufacturer's fully charged, nominal specific gravity). These values are based on manufacturer's recommendations. The minimum specific gravity value required for each cell ensures that ~~the effects of a highly charged or newly installed cell do not mask overall degradation of the battery.~~

1

(continued)

a cell with a marginal or unacceptable specific gravity is not masked by averaging with cells having higher specific gravities.

BASES

SURVEILLANCE REQUIREMENTS

Table 3.8.6-1 (continued)

Category C defines the limit for each connected cell. These values, although reduced, provide assurance that sufficient capacity exists to perform the intended function and maintain a margin of safety. When any battery parameter is outside the Category C limit, the assurance of sufficient capacity described above no longer exists, and the battery must be declared inoperable.

5 The Category C limit specified for electrolyte level (above the top of the plates and not overflowing) ensures that the plates suffer no physical damage and maintain adequate electron transfer capability. The Category C ~~Allowable Value~~ Limit 5 for float voltage is based on IEEE-450 (Ref. 3), which states that a cell voltage of 2.07 V or below, under float conditions and not caused by elevated temperature of the cell, indicates internal cell problems and may require cell replacement.

2 The Category C limit of average specific gravity (≥ ~~1.190~~ 1.195), is based on manufacturer's recommendations (0.020 below the manufacturer's recommended fully charged, nominal specific gravity). In addition to that limit, it is required that the specific gravity for each connected cell must be no ~~less~~ more 6 than 0.020 below the average of all connected cells. This limit ensures that ~~the effect of a highly charged or new cell does not mask overall degradation of the battery.~~ 1 a cell with a marginal or unacceptable specific gravity is not masked by averaging with cells having higher specific gravities.

The footnotes to Table 3.8.6-1 that apply to specific gravity are applicable to Category A, B, and C specific gravity. Footnote (b) ~~in Table 3.8.6-1~~ 4 requires the above mentioned correction for electrolyte level and temperature~~, with the exception that level correction is not required when battery charging current is < 2 amps on float charge. This current provides, in general, an indication of overall battery condition~~ 5.

Because of specific gravity gradients that are produced during the recharging process, delays of several days may occur while waiting for the specific gravity to stabilize. A stabilized charg~~er~~ing 6 current is an acceptable alternative to specific gravity measurement for determining the state of charge. This phenomenon is discussed in IEEE-450 (Ref. 3). Footnote (c) ~~to Table 3.8.6-1~~ 4 allows the float charge

(continued)

BASES

SURVEILLANCE REQUIREMENTS

Table 3.8.6-1 (continued)

current to be used as an alternate to specific gravity for up to 7 days following a battery recharge. Within {7} days each connected cell's specific gravity must be measured to confirm the state of charge. Following a minor battery recharge (such as equalizing charge that does not follow a deep discharge) specific gravity gradients are not significant, and confirming measurements may be made in less than {7} days. 2

2

7 ~~[Reviewer's Note: The value of [2] amps used in footnote (b) and (c) is the nominal value for float current established by the battery vendor as representing a fully charged battery with an allowance for overall battery condition.]~~

REFERENCES

1 2

1. UFSAR, Chapter {6}.
2. UFSAR, Chapter {15}.
3. IEEE Standard 450, 1987.

1. Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature, number, reference, system description, or analysis description.

2. The brackets have been removed and the proper plant specific information/value has been provided.

3. Battery Cell Parameters support the operation of the DC electrical power subsystems and the Battery Cell Parameter Specification is required to be applicable during the same MODES and conditions as in LCO 3.8.4, "DC Sources — Operating," and LCO 3.8.5, "DC Sources — Shutdown." The same safety analyses discussions as those discussed in the Bases for LCO 3.8.4 and LCO 3.8.5 are also applicable to the Battery Cell Parameter Specification. As a result, the Bases for the Battery Cell Parameter Specification in the Applicable Safety Analyses Section have been revised accordingly.

4. Editorial change made for enhanced clarity or to be consistent with similar statements in other places in the Bases. The change to the ACTIONS section (addition of Insert ACTIONS) is also consistent with TSTF-203.

5. Changes have been made to reflect those changes made to the Specification. The following requirements have been renumbered, where applicable, to reflect the changes.

6. Typographical/grammatical error corrected.

7. This Reviewer's Note has been deleted. This information is for the NRC reviewer to be keyed in to what is needed to meet the requirement. This is not meant to be retained in the final version of the plant specific submittal.

1

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.7 Inverters—Operating

BASES

BACKGROUND

The inverters are the preferred source of power for the AC vital buses because of the stability and reliability they achieve. There is one inverter per AC vital bus, making a total of four inverters. The function of the inverter is to provide AC electrical power to the vital buses. The inverter can be powered from an internal AC source/rectifier or from the station battery. The station battery provides an uninterruptible power source for the instrumentation and controls for the Reactor Protection System (RPS) and the Emergency Core Cooling Systems (ECCS) initiation.

[Specific details on inverters, such as type, capacity, operating limits, and number and status of spares, can be found in the FSAR, Chapter [8] (Ref. 1).]

APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident (DBA) and transient analyses in the FSAR, Chapter [6] (Ref. 2) and Chapter [15] (Ref. 3), assume Engineered Safety Feature systems are OPERABLE. The inverters are designed to provide the required capacity, capability, redundancy, and reliability to ensure the availability of necessary power to the RPS and ECCS instrumentation and controls so that the fuel, Reactor Coolant System, and containment design limits are not exceeded. These limits are discussed in more detail in the Bases for Section 3.2, Power Distribution Limits; Section 3.4, Reactor Coolant System (RCS); and Section 3.6, Containment Systems.

The OPERABILITY of the inverters is consistent with the initial assumptions of the accident analyses and is based on meeting the design basis of the unit. This includes maintaining electrical power sources OPERABLE during accident conditions in the event of:

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

b. A worst case single failure.

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

Inverters are a part of the distribution system and, as such, satisfy Criterion 3 of the NRC Policy Statement.

LCO

The inverters ensure the availability of AC electrical power for the instrumentation for the systems required to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence (AOO) or a postulated DBA.

Maintaining the required inverters OPERABLE ensures that the redundancy incorporated into the design of the RPS and ECCS instrumentation and controls is maintained. The four battery powered inverters ensure an uninterruptible supply of AC electrical power to the AC vital buses even if the 4.16 kV safety buses are de-energized.

OPERABLE inverters require the associated vital bus to be powered by the inverter with output voltage and frequency within tolerances, and power input to the inverter from a [125 VDC] station battery. Alternatively, power supply may be from an internal AC source via rectifier as long as the station battery is available as the uninterruptible power supply.

This LCO is modified by a Note allowing [one or two] inverters to be disconnected from an [associated common] battery for ≤ 24 hours. This allowance is provided to allow the performance of an equalizing charge on one battery. If the inverters were not disconnected, the resulting voltage condition might damage the inverters. Disconnecting the inverters is allowed provided the associated AC vital buses are energized from their [Class 1E constant voltage source transformer or inverter using internal AC source] and that the AC vital buses for the other batteries are energized from the associated inverters. These provisions minimize the loss of equipment that would occur in the event of a loss of offsite power. The 24 hour time period for the allowance minimizes the time during which a loss of offsite power could result in the loss of equipment energized from the affected AC vital bus while it takes into consideration the time required to perform an equalizing charge on the battery bank.

(continued)

BASES

LCO (continued)

The intent of this Note is to limit the number of inverters that may be disconnected. Only those inverters associated with the single battery undergoing an equalizing charge may be disconnected. All other inverters must be aligned to their associated batteries, regardless of the number of inverters or plant design.

APPLICABILITY

The inverters are required to be OPERABLE in MODES 1, 2, and 3 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 OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

Inverter requirements for MODES 4 and 5 are covered in the Bases for LCO 3.8.8, "Inverters—Shutdown."

ACTIONS

A.1

With a required inverter inoperable, its associated AC vital bus becomes inoperable until it is manually re-energized from its [Class 1E constant voltage source transformer or inverter using internal AC source]. LCO 3.8.9 addresses this action; however, pursuant to LCO 3.0.6, these actions would not be entered even if the AC vital bus were de-energized. Therefore, the ACTIONS are modified by a Note stating that ACTIONS for LCO 3.8.9 must be entered immediately. This ensures the vital bus is re-energized within 2 hours.

Required Action A.1 allows 24 hours to fix the inoperable inverter and return it to service. The 24 hour limit is based upon engineering judgment, taking into consideration the time required to repair an inverter and the additional risk to which the plant is exposed because of the inverter inoperability. This risk has to be balanced against the risk of an immediate shutdown, along with the potential challenges to safety systems that such a shutdown might

(continued)

BASES

ACTIONS

A.1 (continued)

entail. When the AC vital bus is powered from its constant voltage source, it is relying upon interruptible AC electrical power sources (offsite and onsite). The uninterruptible inverter source to the AC vital buses is the preferred source for powering instrumentation trip setpoint devices.

B.1

With the Division 3 inverter inoperable, the associated Division 3 ECCS subsystem may be incapable of performing intended function and must be immediately declared inoperable. This also requires entry into applicable Conditions and Required Actions for LCO 3.5.1, "ECCS—Operating."

C.1 and C.2

If the inoperable devices or components cannot be restored to OPERABLE status within the associated Completion Time, 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 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.

SURVEILLANCE REQUIREMENTS

SR 3.8.7.1

This Surveillance verifies that the inverters are functioning properly with all required circuit breakers closed and AC vital buses energized from the inverter. The verification of proper voltage and frequency output ensures that the required power is readily available for the instrumentation connected to the AC vital buses. The 7 day Frequency takes into account the redundant capability of the inverters and other indications available in the control room that alert the operator to inverter malfunctions.

(continued)

1

BASES (continued)

REFERENCES

1. FSAR, Chapter [8].
2. FSAR, Chapter [6].
3. FSAR, Chapter [15].

1. The Bases section has been deleted because the associated Specification has been deleted.

1

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.8 Inverters—Shutdown

BASES

BACKGROUND

A description of the inverters is provided in the Bases for LCO 3.8.7, "Inverters—Operating."

APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident (DBA) and transient accident analyses in the FSAR, Chapter [6] (Ref. 1) and Chapter [15] (Ref. 2), assume Engineered Safety Feature systems are OPERABLE. The DC to AC inverters are designed to provide the required capacity, capability, redundancy, and reliability to ensure the availability of necessary power to the Reactor Protection System and Emergency Core Cooling Systems instrumentation and controls so that the fuel, Reactor Coolant System, and containment design limits are not exceeded.

The OPERABILITY of the inverters is consistent with the initial assumptions of the accident analyses and the requirements for the supported systems' OPERABILITY.

The OPERABILITY of the minimum inverters to each AC vital bus during MODES 4 and 5 ensures that:

a. The facility can be maintained in the shutdown or refueling condition for extended periods;

b. Sufficient instrumentation and control capability are available for monitoring and maintaining the unit status; and

c. Adequate power is available to mitigate events postulated during shutdown, such as an inadvertent draindown of the vessel or a fuel handling accident.

The inverters were previously identified as part of the Distribution System and, as such, satisfy Criterion 3 of the NRC Policy Statement.

(continued)

BASES (continued)

LCO

The inverters ensure the availability of electrical power for the instrumentation for systems required to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence or postulated DBA. The battery powered inverters provide uninterruptible supply of AC electrical power to the AC vital buses even if the 4.16 kV safety buses are de-energized. OPERABLE inverters require the AC vital bus be powered by the inverter through inverted DC voltage. This ensures the availability of sufficient inverter power sources to operate the plant in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents and inadvertent reactor vessel draindown).

APPLICABILITY

The inverters required to be OPERABLE in MODES 4 and 5 and also any time during movement of irradiated fuel assemblies in the [primary or secondary] containment provide assurance that:

a. Systems to provide adequate coolant inventory makeup are available for the irradiated fuel in the core in case of an inadvertent draindown of the reactor vessel;

b. Systems needed to mitigate a fuel handling accident are available;

c. Systems necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and

d. Instrumentation and control capability is available for monitoring and maintaining the unit in a cold shutdown condition or refueling condition.

Inverter requirements for MODES 1, 2, and 3 are covered in LCO 3.8.7.

ACTIONS

A.1, A.2.1, A.2.2, A.2.3, and A.2.4

If two divisions are required by LCO 3.8.10, "Distribution Systems—Shutdown," the remaining OPERABLE inverters may be

(continued)

BASES

ACTIONS

A.1, A.2.1, A.2.2, A.2.3, and A.2.4 (continued)

capable of supporting sufficient required feature(s) to allow continuation of CORE ALTERATIONS, fuel movement, and operations with a potential for draining the reactor vessel. By the allowance of the option to declare required feature(s) inoperable with the associated inverter(s) inoperable, appropriate restrictions are implemented in accordance with the affected required feature(s) of the LCOs' ACTIONS. In many instances, this option may involve undesired administrative efforts. Therefore, the allowance for sufficiently conservative actions is made (i.e., to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies in the [primary or secondary] containment, and any activities that could result in inadvertent draining of the reactor vessel).

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability of the occurrence of postulated events. It is further required to immediately initiate action to restore the required inverters and to continue this action until restoration is accomplished in order to provide the necessary inverter power to the plant safety systems.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required inverters should be completed as quickly as possible in order to minimize the time the plant safety systems may be without power or powered from a constant voltage source transformer.

SURVEILLANCE REQUIREMENTS

SR 3.8.8.1

This Surveillance verifies that the inverters are functioning properly with all required circuit breakers closed and AC vital buses energized from the inverter. The verification of proper voltage and frequency output ensures that the required power is readily available for the instrumentation connected to the AC vital buses. The 7 day Frequency takes into account the redundant capability of the inverters and other indications available in the control room that alert the operator to inverter malfunctions.

(continued)

1

BASES (continued)

REFERENCES

1. FSAR, Chapter [6].
2. FSAR, Chapter [15].

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ISTS BASES: 3.8.8 - INVERTERS — SHUTDOWN

1. The Bases section has been deleted because the associated Specification has been deleted.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.~~9~~ Distribution Systems—Operating 7 1

BASES

BACKGROUND

2 for each unit 2

The onsite Class 1E AC and DC electrical power distribution ~~system~~ is divided by division into three independent AC, DC, ~~and AC vital bus~~ and electrical power distribution subsystems. 2

2 Insert B 3.8.7 Background 1

~~The primary AC distribution system consists of each 4.16 kV Engineered Safety Feature (ESF) bus that has at least one separate and independent offsite source of power, as well as a dedicated onsite diesel generator (DG) source. Each 4.16 kV ESF bus is normally connected to a preferred source. If all offsite sources are unavailable, the onsite emergency DGs supply power to the 4.16 kV ESF buses.~~ 2 ~~Control power for the 4.16 kV breakers is supplied from the Class 1E batteries. Additional description of this system may be found in the Bases for LCO 3.8.1, "AC Sources—Operating," and the Bases for LCO 3.8.4, "DC Sources—Operating."~~

~~The secondary plant AC distribution system includes 480 V ESF load centers and associated loads, motor control centers, and transformers.~~

2 Insert B 3.8.7 Background 2

~~The 120 VAC vital buses 2YV1, 2YV2, 2YV3, and 2YV4 are arranged in four load groups and are normally powered from DC. The alternate power supply for the vital buses is a Class 1E constant voltage source transformer powered from the same division as the associated inverter; its use is governed by LCO 3.8.7, "Inverters—Operating." Each constant voltage source transformer is powered from AC.~~ 2

~~There are three independent 125 VDC electrical power distribution subsystems.~~ The list of all required distribution buses is located in Table ~~[B.1.X.X]~~ B 3.8.7-1 3. 2

APPLICABLE SAFETY ANALYSES

4 2 Engineered Safety Features 4

The initial conditions of Design Basis Accident (DBA) and transient analyses in the FSAR, Chapter ~~[6]~~ (Ref. 1) and Chapter ~~[15]~~ (Ref. 2), assume ESF systems are OPERABLE. The 3 AC, DC, and ~~AC vital bus~~ electrical power distribution 2 systems are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to ESF systems so that the

(continued)

Insert B 3.8.7 Background 1

Each unit is also dependent on portions of the opposite unit's Division 2 AC and DC power distribution subsystems.

The primary AC Distribution System consists of three 4.16 kV emergency buses that are supplied from the transmission system by two physically independent circuits. The Division 2 and 3 emergency buses also have a dedicated onsite diesel generator (DG) source, while the Unit 1 and 2 Division 1 buses share an onsite DG source. The Division 1, 2, and 3 4.16 kV emergency buses are normally supplied through the system auxiliary transformer (SAT). In addition to the SAT, Division 1 and 2 can be supplied from the unit auxiliary transformer or the opposite unit's SAT.

Insert B 3.8.7 Background 2

The Division 2 Class 1E AC and DC electrical power distribution subsystems associated with each unit are shared by each unit since some systems are common to both units. The opposite unit Division 2 Class 1E AC and DC electrical power distribution subsystems support equipment required to be OPERABLE by LCO 3.6.3.1, "Primary Containment Hydrogen Recombiners," LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Area Filtration (CRAF) System," LCO 3.7.5, "Control Room Area Ventilation Air Conditioning (AC) System," and LCO 3.8.1, "AC Sources—Operating."

BASES

APPLICABLE SAFETY ANALYSES (continued)

fuel, Reactor Coolant System, and containment design limits are not exceeded. These limits are discussed in more detail in the Bases for Section 3.2, Power Distribution Limits; Section 3.4, ~~Reactor Coolant System (RCS)~~ 5 Emergency Core Cooling Systems (ECCS) and Reactor Core Isolation Cooling (RCIC) System; and Section 3.6, Containment Systems.

The OPERABILITY of the AC, DC, ~~and AC vital bus~~ electrical power distribution systems is consistent with the initial assumptions of the accident analyses and is based upon meeting the design basis of the plant. This includes maintaining the AC and DC electrical power sources and associated distribution systems OPERABLE during accident conditions in the event of: 2

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

b. A worst case single failure.

The AC, DC, ~~and AC vital bus~~ electrical power distribution systems satisfy Criterion 3 of ~~the NRC Policy Statement~~ 10 CFR 50.36(c)(2)(ii). 2

LCO

1 The required AC, DC, ~~and AC vital bus~~ electrical power distribution subsystems listed in Table B 3.8.~~9~~7-1 ensure the availability of AC, DC, ~~and AC vital bus~~ electrical power for the systems required to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence (AOO) or a postulated DBA. The Division 1, 2, and 3 AC, DC, ~~and AC vital bus~~ electrical power primary distribution subsystems are required to be OPERABLE 1 and certain buses of the opposite unit Division 2 AC and DC electrical power distribution subsystems are required to be OPERABLE to support equipment required to be OPERABLE by LCO 3.6.3.1, LCO 3.6.4.3, LCO 3.7.4, LCO 3.7.5, and LCO 3.8.1. As noted in Table B 3.8.7-1 (Footnote a), each division of the AC and DC electrical power distribution system is a subsystem.

1 Maintaining the Division 1, 2, and 3 AC, DC, ~~and AC vital bus~~ electrical power distribution subsystems OPERABLE ensures that the redundancy incorporated into the design of ESF is not defeated. Any two of the three divisions of the distribution system are capable of providing the necessary electrical power to the associated ESF components. Therefore, a single failure within any system or within the electrical power distribution subsystems does not prevent safe shutdown of the reactor.

OPERABLE AC electrical power distribution subsystems 6 require the associated buses to be energized to their proper voltages. OPERABLE DC electrical power distribution

(continued)

BASES

LCO (continued)

subsystems require the associated buses to be energized to their proper voltage from either the associated battery or charger. ~~OPERABLE vital bus electrical power distribution subsystems require the associated buses to be energized to their proper voltage from the associated [inverter via inverted DC voltage, inverter using internal AC source, or Class 1E constant voltage transformer].~~ 1

2 Insert B3.8.7 LCO

In addition, at least one tie breaker~~s~~ between the redundant Division 2, safety related AC~~, DC,~~ ~~and~~ ~~AC vital bus~~ power distribution subsystems~~, if they exist,~~ must be open. 1 2 For the Division 2 AC power distribution subsystems, if both the unit's that are not being powered from their normal source (i.e., they are being powered from the alternate power source through the redundant electrical power distribution subsystem) are considered inoperable. This prevents any electrical malfunction in any power distribution subsystem from propagating to the redundant subsystem, which could cause the failure of a redundant subsystem and a loss of essential safety function(s). ~~If any~~ tie breakers are closed, the ~~affected redundant~~ electrical power distribution subsystems are considered inoperable. ~~This~~ The restriction of maintaining electrical separation applies to the onsite, emergency safety related, redundant electrical power distribution subsystems. It does not, however, preclude redundant Class 1E 4.16 kV buses from being powered from the same offsite ~~circuit~~ source. 2

2 For the DC power distribution subsystems, both the Unit 1 and Unit 2 power distribution subsystems are considered inoperable when both cross tie breakers are closed because of the limitation of the battery capacity to supply both units when in MODES 1, 2, and 3.

APPLICABILITY

The electrical power distribution subsystems are required to be OPERABLE in MODES 1, 2, and 3 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 OPERABILITY and other vital functions are maintained, in the event of a postulated DBA.

Electrical power distribution subsystem requirements for MODES 4 and 5 and other conditions in which AC and DC electrical power distribution subsystems are required 7 are covered in the Bases for LCO 3.8.~~10~~ 8, "Distribution Systems—Shutdown." 8

ACTIONS

A.1

1 With one or more Division 1 ~~or~~ and 2 required AC buses, load centers, motor control centers, or distribution panels ~~(except AC vital buses), in one division~~ inoperable and a loss of function has not yet occurred, the

(continued)

Insert B 3.8.7 LCO

Based on the number of safety significant electrical loads associated with each bus listed in Table B 3.8.7-1, if one or more of the buses becomes inoperable, entry into the appropriate ACTIONS of LCO 3.8.7 is required. Some buses, such as distribution panels, which help comprise the AC and DC distribution systems are not listed in Table B 3.8.7-1. The loss of electrical loads associated with these buses may not result in a complete loss of a redundant safety function necessary to shut down the reactor and maintain it in a safe condition. Therefore, should one or more of these buses become inoperable due to a failure not affecting the OPERABILITY of a bus listed in Table B 3.8.7-1 (e.g., a breaker supplying a single distribution panel fails open), the individual loads on the bus would be considered inoperable, and the appropriate Conditions and Required Actions of the LCOs governing the individual loads would be entered. However, if one or more of these buses is inoperable due to a failure also affecting the OPERABILITY of a bus listed in Table B 3.8.7-1 (e.g., loss of 4.16 kV emergency bus, which results in de-energization of all buses powered from the 4.16 kV emergency bus), then although the individual loads are still considered inoperable, the Conditions and Required Actions of the LCO for the individual loads are not required to be entered, since LCO 3.0.6 allows this exception (i.e., the loads are inoperable due to the inoperability of a support system governed by a Technical Specification; the 4.16 kV emergency bus).

BASES

ACTIONS

A.1 (continued)

remaining AC electrical power distribution subsystems are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining electrical power distribution subsystems could result in the minimum required ESF functions not being supported. Therefore, the required AC buses, load centers, motor control centers, and distribution panels must be restored to OPERABLE status within 8 hours.

9

1 The Condition s A worst scenario is ~~one~~ two divisions without AC power (i.e., no offsite power to the divisions and the associated DGs inoperable). In this ~~Condition~~ situation, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operators' attention be focused on minimizing the potential for loss of power to the remaining division by stabilizing the unit, and ~~on~~ restoring power to the affected division. The 8 hour time limit before requiring a unit shutdown in this Condition is acceptable because of: 4

6

a. The ~~re is~~ potential for decreased safety if the unit operators' attention is diverted from the evaluations and actions necessary to restore power to the affected division to the actions associated with taking the unit to shutdown within this time limit.

4

b. The low potential for an event in conjunction with a single failure of a redundant component in the division with AC power. (The redundant component is verified OPERABLE in accordance with Specification 5.5.12, "Safety Function Determination Program (SFDP).")

1

3.8.7.a

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet ~~the~~ LCO 3.8.7.a. If Condition A is entered while, for instance, a DC ~~bus~~ electrical power distribution subsystem is inoperable and subsequently returned OPERABLE, ~~the~~ LCO may already have been not met for up to 2 hours. This situation could lead to a total duration of 10 hours, since initial failure of ~~the~~ LCO, to

9

(continued)

BASES

ACTIONS

A.1 (continued) 9

electrical power

restore the AC distribution system. At this time, a DC circuit could again become inoperable, and AC distribution could be restored OPERABLE. This could continue indefinitely.

electrical power distribution subsystem 9

6 the electrical power 9

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

1 3.8.7.a 1

1

[B.1

With one Division 1 or 2 AC vital bus inoperable, the remaining OPERABLE AC vital buses are capable of supporting the minimum safety functions necessary to shut down and maintain the unit in the safe shutdown condition. Overall reliability is reduced, however, because an additional single failure could result in the minimum required ESF functions not being supported. Therefore, the required AC vital bus must be restored to OPERABLE status within 2 hours by powering the bus from the associated [inverter via inverted DC, inverter using internal AC source, or Class 1E constant voltage transformer].

Condition B represents one AC vital bus without power; potentially both the DC source and the associated AC source nonfunctioning. In this situation, the plant is significantly more vulnerable to a complete loss of all noninterruptible power. It is, therefore, imperative that the operator's attention focus on stabilizing the plant, minimizing the potential for loss of power to the remaining vital buses, and restoring power to the affected vital bus.

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

(continued)

BASES

ACTIONS

B.1 (continued)

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

b. The potential for decreased safety when requiring entry into numerous applicable Conditions and Required Actions for components without adequate vital AC power, while not providing sufficient time for the operators to perform the necessary evaluations and actions to restore power to the affected division;

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

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

1

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

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

(continued)

BASES

electrical power distribution subsystems 9

1 and a loss of function has not yet occurred

ACTIONS (continued)

1 B C.1

1 one or more

and 1 1

With Division 1 ~~or~~ 2 DC buses ~~in one [division]~~ inoperable, the remaining DC electrical power distribution subsystems are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining DC electrical power distribution subsystems could result in the minimum required ESF functions not being supported. Therefore, the required DC buses must be restored to OPERABLE status within 2 hours by powering the bus from the associated battery or charger.

9 electrical power distribution subsystem(s)

4 Worst scenario is

1 B

Condition ~~C represents one~~ two division s without adequate DC power, potentially with both the battery significantly degraded and the associated charger nonfunctioning. In this situation, the plant is significantly more vulnerable to a complete loss of all DC power. It is, therefore, imperative that the operator's attention focus on stabilizing the plant, minimizing the potential for loss of power to the remaining divisions, and restoring power to the affected division. (s) 4

This 2 hour limit is more conservative than Completion Times allowed for the majority of components that could be without power. Taking exception to LCO 3.0.2 for components without adequate DC power, that would have Required Action Completion Times shorter than 2 hours, is acceptable because of:

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

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

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

(continued)

BASES

ACTIONS 1 B C.1 (continued)

electrical power distribution subsystems 9

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

B 1 — 9 electrical power distribution subsystem

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

1 3.8.7.a — B 1 — 1 3.8.7 a — 9 electrical power — 9 electrical power distribution subsystem — subsystem 9 — 9 electrical power

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

1 3.8.7.a — 1 3.8.7.a — B 1

Insert B3.8.7 ACTION C 1

D.1 and D.2

r 6

If the inoperable electrical power distribution system cannot be restored to OPERABLE status within the associated Completion Times, the plant must be bought to a MODE in which the LCO does not apply. To achieve this status, the plant 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.

4 (ie, one or both Division 3 AC or DC electrical power distribution subsystems inoperable)

E.1

With the Division 3 electrical power distribution system inoperable, the Division 3 powered systems are not capable of performing their intended functions. Immediately

(continued)

Insert B 3.8.7 ACTION C

C.1

With one or more required opposite unit Division 2 AC or DC electrical power distribution subsystems inoperable and a loss of function has not yet occurred, certain redundant Division 2 features (e.g., a standby gas treatment subsystem) will not function if a design basis event were to occur. Therefore, a 7 day Completion Time is provided to restore the required opposite unit Division 2 AC and DC electrical power distribution subsystems to OPERABLE status. The 7 day Completion Time takes into account the capacity and capability of the remaining AC and DC electrical power distribution subsystems, and is based on the shortest restoration time allowed for the systems affected by the inoperable AC and DC electrical power distribution subsystems in the respective system specifications.

BASES

associated supported features, e.g., the 1

System and its associated primary containment isolation valves,

ACTIONS

E.1 (continued)

Insert Action F 1

declaring the high pressure core spray inoperable allows the ACTIONS of LCO 3.5.1, "ECCS—Operating," to apply appropriate limitations on continued reactor operation. 4

and LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," 1

F.1 G 1

4 power

two or more 9

inoperable electrical power distribution subsystems. 1

Condition F G corresponds to a level of degradation in the electrical power distribution system that causes a required safety function to be lost. When ~~more than one Condition is entered, and this~~ results in the loss of a required function, the plant is in a condition outside the accident analysis. Therefore, no additional time is justified for continued operation. LCO 3.0.3 must be entered immediately to commence a controlled shutdown. 1

SURVEILLANCE REQUIREMENTS

SR 3.8.9 7.1 1

Meeting this Surveillance verifies that the AC, DC, ~~and AC vital bus~~ electrical power distribution systems are functioning properly, with the correct circuit breaker alignment. The correct breaker alignment ensures the appropriate separation and independence of the electrical divisions is maintained, and the appropriate voltage is available to each required bus. The verification of proper voltage availability on the buses ensures that the required voltage is readily available for motive as well as control functions for critical system loads connected to these buses. The 7 day Frequency takes into account the redundant capability of the AC, DC, ~~and AC vital bus~~ electrical power distribution subsystems, and other indications available in the control room that alert the operator to subsystem malfunctions. 1 1

REFERENCES

2 U

1. UFSAR, Chapter 6.
2. UFSAR, Chapter 15. 3
3. Regulatory Guide 1.93, Revision 0, December 1974. 2

(single division systems are not included, although for this ACTION Division 3 is considered redundant to Division 1 and 2 ECCS)

Insert ACTION F

F.1

With the Division 1 250 V DC subsystem inoperable, the RCIC System and the RCIC DC powered PCIVs may be incapable of performing their intended functions and must be immediately declared inoperable. This declaration also requires entry into applicable Conditions and Required Actions of LCO 3.5.3, "Reactor Core Isolation Cooling (RCIC) System," and LCO 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)."

7 1

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

TYPE	VOLTAGE	[DIVISION 1]*	[DIVISION 2]*	[DIVISION 3]*
AC safety buses	[4160 V]	[ESF Bus] [NB01]	[ESF Bus] [NB02]	[ESF Bus] [NB03]
	[480 V]	Load Centers [NG01, NG03]	Load Centers [NG02, NG04]	
	[480 V]	Motor Control Centers [NG01A, NG01I, NG01B, NG03C, NG03I, NG03D]	Motor Control Centers [NG02A, NG02I, NG02B, NG04C, NG04I, NG04D]	Motor Control Centers [NG05A, NG05C]
	[120 V]	Distribution Panels [NP01, NP03]	Distribution Panels [NP02, NP04]	Distribution Panels [NP05, NP06]
DC buses	[125 V]	Bus [NK01]	Bus [NK02]	Bus [NK05]
		Bus [NK03]	Bus [NK04]	
		Distribution Panels [NK41, NK43, NK51]	Distribution Panels [NK42, NK44, NK52]	Distribution Panel [NK45]
AC vital buses	[120 V]	Bus [NN01]	Bus [NN02]	Bus [NN05]
		Bus [NN03]	Bus [NN04]	

* Each [division] of the AC and DC electrical power distribution systems is a subsystem.

Insert Table 3.8.7-1

9

Insert Table B 3.8.7-1

TYPE	VOLTAGE	DIVISION 1[(a)]	DIVISION 2[(a)(b)]	DIVISION 3[(a)]
AC buses	4160 V (Unit 1)	141Y	142Y	143
	4160 V (Unit 2)	241Y	242Y	243
	480 V (Unit 1)	135X and 135Y MCCs 135X-1, 135X-2, 135X-3, 135Y-1, and 135Y-2	136X and 136Y MCCS 136X-1, 136X-2, 136X-3, 136Y-1, and 136Y-2	MCC 143-1
	480 V (Unit 2)	235X and 235Y MCCs 235X-1, 235X-2, 235X-3, 235Y-1, and 235Y-2	236X and 236Y MCCS 236X-1, 236X-2, 236X-3, 236Y-1, and 236Y-2	MCC 243-1
	120 V (Unit 1)	Distribution Panels in 480V MCCS 135X-1, 135X-2, 135X-3, and 135Y-1	Distribution Panels in 480V MCCS 136X-1, 136X-2, 136X-3, and 136Y-2	Distribution Panels in 480V MCC 143-1
	120 V (Unit 2)	Distribution Panels in 480V MCCs 235X-1, 235X-2, 235X-3, and 235Y-1	Distribution Panels in 480V MCCs 236X-1, 236X-2, 236X-3, and 236Y-2	Distribution Panels in 480V MCC 243-1
DC buses	250 V (Unit 1)	MCC 121Y		
	250 V (Unit 2)	MCC 221Y		
	125 V (Unit 1)	Distribution Panel 111Y	Distribution Panel 112Y	Distribution Panel 113
	125 V (Unit 2)	Distribution Panel 211Y	Distribution Panel 212Y	Distribution Panel 213

(a) Each division of the AC and DC electrical power distribution systems is a subsystem.

(b) OPERABILITY requirements of the opposite unit's Division 2 AC and DC electrical power distribution subsystems require OPERABILITY of all the opposite unit's Division 2 4160 VAC, 480 VAC, 120 VAC, and 125 VDC buses listed in this Table.

1. Changes have been made to reflect those changes made to the Specification. The following requirements have been renumbered, where applicable, to reflect the changes.

2. Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature, number, reference, system description, analysis description or licensing basis description.

3. The brackets have been removed and the proper plant specific information/valve has been provided.

4. Editorial change made for enhanced clarity or to be consistent with similar statements in other places in the Bases.

5. This change has been made since Section 3.5, "ECCS and RCIC System," provides the appropriate limits that are affected by the systems in this LCO.

6. Typographical/grammatical error corrected.

7. This change has made to be consistent with the Applicability of LCO 3.8.8.

8. The proper LCO number has been used.

9. Changes have been made to match the Specification.

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.10 Distribution Systems—Shutdown
1 8

BASES

BACKGROUND	A description of the AC, DC, ~~and AC vital bus~~ electrical power distribution systems is provided in the Bases for LCO 3.8.9 7, "Distribution Systems—Operating." 1 5
APPLICABLE SAFETY ANALYSES	The initial conditions of Design Basis Accident and transient analyses in the U FSAR, Chapter [6] (Ref. 1) and Chapter [15] (Ref. 2), assume Engineered Safety Feature (ESF) systems are OPERABLE. The AC, DC, ~~and AC vital bus~~ electrical power distribution systems are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to ESF systems so that the fuel, Reactor Coolant System, and containment design limits are not exceeded. 2 3 1
	The OPERABILITY of the AC, DC, ~~and AC vital bus~~ electrical power distribution system is consistent with the initial assumptions of the accident analyses and the requirements for the supported systems' OPERABILITY. 1
	The OPERABILITY of the minimum AC, DC, ~~and AC vital bus~~ electrical power sources and associated power distribution subsystems during MODES 4 and 5, and during movement of irradiated fuel assemblies in the ~~primary or~~ secondary containment ensures that: 1 2
	a. The facility can be maintained in the shutdown or refueling condition for extended periods;
	b. Sufficient instrumentation and control capability is available for monitoring and maintaining the unit status; and
	c. Adequate power is provided to mitigate events postulated during shutdown, such as an inadvertent draindown of the vessel or a fuel handling accident.
	The AC and DC electrical power distribution systems satisfy Criterion 3 of ~~the NRC Policy Statement~~. 10 CFR 50.36 (c)(2)(ii) 2

(continued)

BASES (continued)

LCO

Various combinations of subsystems, equipment, and components are required OPERABLE by other LCOs, depending on the specific plant condition. Implicit in those requirements is the required OPERABILITY of necessary 4 support ~~required~~ features. This LCO explicitly requires energization of the portions of the electrical distribution system necessary to support OPERABILITY of Technical Specifications' required systems, equipment, and components—both specifically addressed by their own LCOs, and implicitly required by the definition of OPERABILITY.

Maintaining these portions of the distribution system energized ensures the availability of sufficient power to operate the plant in a safe manner to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents and inadvertent reactor vessel draindown).

APPLICABILITY

The AC and DC electrical power distribution subsystems required to be OPERABLE in MODES 4 and 5 and during movement of irradiated fuel assemblies in the {secondary} containment provide assurance that: 3

a. Systems to provide adequate coolant inventory makeup are available for the irradiated fuel in the core in case of an inadvertent draindown of the reactor vessel;

b. Systems needed to mitigate a fuel handling accident are available;

c. Systems necessary to mitigate the effects of events that can lead to core damage during shutdown are available; and

d. Instrumentation and control capability is available for monitoring and maintaining the unit in a cold shutdown or refueling condition.

The AC, DC, ~~and AC vital bus~~ electrical power distribution subsystem requirements for MODES 1, 2, and 3 are covered in LCO 3.8.9 7 5 1

(continued)

BASES (continued)

TSTF-36 Rev.3

ACTIONS

Insert B 3.8.8 ACTIONS 1

A.1, A.2.1, A.2.2, A.2.3, A.2.4, and A.2.5

Although redundant required features may require redundant divisions of electrical power distribution subsystems to be OPERABLE, one OPERABLE distribution subsystem division may be capable of supporting sufficient required features to allow continuation of CORE ALTERATIONS, fuel movement, and operations with a potential for draining the reactor vessel. By allowing the option to declare required features associated with an inoperable distribution subsystem inoperable, appropriate restrictions are implemented in accordance with the affected distribution subsystem LCO's Required Actions. In many instances, this option may involve undesired administrative efforts. Therefore, the allowance for sufficiently conservative actions is made (i.e., to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies in the ~~[primary or]~~ secondary containment 3 and any activities that could result in inadvertent draining of the reactor vessel).

Suspension of these activities shall not preclude completion of actions to establish a safe conservative condition. These actions minimize the probability of the occurrence of postulated events. It is further required to immediately initiate action to restore the required AC and DC electrical power distribution subsystems and to continue this action until restoration is accomplished in order to provide the necessary power to the plant safety systems.

Notwithstanding performance of the above conservative Required Actions, a required residual heat removal—shutdown cooling (RHR-SDC) subsystem may be inoperable. In this case, Required Actions A.2.1 through A.2.4 do not adequately address the concerns relating to coolant circulation and heat removal. Pursuant to LCO 3.0.6, the RHR-SDC ACTIONS would not be entered. Therefore, Required Action A.2.5 is provided to direct declaring RHR-SDC inoperable, which results in taking the appropriate RHR-SDC ACTIONS.

The Completion Time of immediately is consistent with the required times for actions requiring prompt attention. The restoration of the required distribution subsystems should be completed as quickly as possible in order to minimize the time the plant safety systems may be without power.

(continued)

Insert B 3.8.8 ACTIONS

LCO 3.0.3 is not applicable while in MODE 4 or 5. However, since irradiated fuel assembly movement can occur in MODE 1, 2, or 3, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 4 or 5, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, or 3, the fuel movement is independent of reactor operations. Entering LCO 3.0.3 while in MODE 1, 2, or 3 would require the unit to be shutdown, but would not require immediate suspension of movement of irradiated fuel assemblies. The Note to the ACTIONS, "LCO 3.0.3 is not applicable," ensures that the actions for immediate suspension of irradiated fuel assembly movement are not postponed due to entry into LCO 3.0.3. 2

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.~~10~~ 8.1 $\boxed{1}$

This Surveillance verifies that the AC, DC, and ~~AC vital bus~~ $\boxed{1}$ electrical power distribution subsystem is functioning properly, with the buses energized. The verification of proper voltage availability on the buses ensures that the required power is readily available for motive as well as control functions for critical system loads connected to these buses. The 7 day Frequency takes into account the redundant capability of the electrical power distribution subsystems, as well as other indications available in the control room that alert the operator to subsystem malfunctions.

REFERENCES $\boxed{2}$

1. UFSAR, Chapter ~~[~~6~~]~~. $\boxed{3}$
2. UFSAR, Chapter ~~[~~15~~]~~.

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS BASES: 3.8.8 - DISTRIBUTION SYSTEMS — SHUTDOWN

1. Changes have been made to reflect those changes made to the Specifications. The following requirements have been renumbered, where applicable, to reflect the changes. The change to the ACTIONS Bases (addition of Note description) is also consistent with TSTF-36, Rev. 3.

2. Changes have been made (additions, deletions, and/or changes to the NUREG) to reflect the plant specific nomenclature, number, reference, system description, or analysis description.

3. The brackets have been removed and the proper plant specific information/value has been provided.

4. Typographical/grammatical error corrected.

5. The proper LCO number has been provided.

ADMINISTRATIVE CHANGES
("A.x" Labeled Comments/Discussions)

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change involves reformatting, renumbering, and rewording the existing Technical Specifications. The reformatting, renumbering, and rewording process involves no technical changes to the existing Technical Specifications. As such, this change is administrative in nature and does not impact initiators of analyzed events or assumed mitigation of accident or transient events. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or changes in methods governing normal plant operation. The proposed change will not impose any new or eliminate any old requirements. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   The proposed change will not reduce a margin of safety because it has no impact on any safety analyses assumptions. This change is administrative in nature. Therefore, the change does not involve a significant reduction in a margin of safety.

RELOCATED SPECIFICATIONS
("R.x" Labeled Comments/Discussions)

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change relocates requirements and surveillances for structures, systems, components or variables that do not meet the criteria for inclusion in Technical Specifications as identified in the Application of Selection Criteria to the LaSalle 1 and 2 Technical Specifications. The affected structures, systems, components or variables are not assumed to be initiators of analyzed events and are not assumed to mitigate accident or transient events. The requirements and surveillances for these affected structures, systems, components or variables will be relocated from the Technical Specifications to an appropriate administratively controlled document which will be maintained pursuant to 10 CFR 50.59. In addition, the affected structures, systems, components or variables are addressed in existing surveillance procedures which are also controlled by 10 CFR 50.59 and subject to the change control provisions imposed by plant administrative procedures, which endorse applicable regulations and standards. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated.

   The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The proposed change will not impose or eliminate any requirements and adequate control of existing requirements will be maintained. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   The proposed change will not reduce a margin of safety because it has no impact on any safety analysis assumptions. In addition, the relocated requirements and surveillances for the affected structure, system, component or variable remain the same as the existing Technical Specifications. Since any future changes to these requirements or the surveillance procedures will be evaluated per the requirements of 10 CFR 50.59, no reduction in a margin of safety will be permitted.

RELOCATED SPECIFICATIONS
("R.x" Labeled Comments/Discussions)

3 (continued)

The existing requirement for NRC review and approval of revisions, in accordance with 10 CFR 50.92, to these details proposed for relocation does not have a specific margin of safety upon which to evaluate. However, since the proposed change is consistent with the BWR ISTS, NUREG-1434, Rev. 1, approved by the NRC Staff, revising the Technical Specifications to reflect the approved level of detail ensures no significant reduction in the margin of safety.

TECHNICAL CHANGES - MORE RESTRICTIVE
("M.x" Labeled Comments/Discussions)

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change provides more stringent requirements for operation of the facility. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event. The more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or changes in the methods governing normal plant operation. The proposed change does impose different requirements. However, these changes are consistent with the assumptions in the safety analyses and licensing basis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   The imposition of more restrictive requirements either has no impact on or increases the margin of plant safety. As provided in the discussion of the change, each change in this category is by definition, providing additional restrictions to enhance plant safety. The change maintains requirements within the safety analyses and licensing basis. Therefore, this change does not involve a significant reduction in a margin of safety.

"GENERIC" LESS RESTRICTIVE CHANGES:
RELOCATING DETAILS TO TECHNICAL SPECIFICATION BASES, UFSAR, TRM, OR OTHER PLANT CONTROLLED DOCUMENTS
("LA.x" Labeled Comments/Discussions)

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change relocates certain details from the Technical Specifications to the Bases, UFSAR, TRM, or other plant controlled documents. The Bases, UFSAR, TRM, and other plant controlled documents containing the relocated information will be maintained in accordance with 10 CFR 50.59. In addition to 10 CFR 50.59 provisions, the Technical Specification Bases are subject to the change control provisions in the Administrative Controls Chapter of the ITS. The UFSAR is subject to the change control provisions of 10 CFR 50.71(e), and the plant procedures and other plant controlled documents are subject to controls imposed by plant administrative procedures, which endorse applicable regulations and standards. Since any changes to the Bases, UFSAR, TRM, or other plant controlled documents will be evaluated per the requirements of the Bases Control Program in Chapter 5.0 of the ITS or 10 CFR 50.59, no increase (significant or insignificant) in the probability or consequences of an accident previously evaluated will be allowed. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The proposed change will not impose or eliminate any requirements, and adequate control of the information will be maintained. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   The proposed change will not reduce a margin of safety because it has no impact on any safety analysis assumptions. In addition, the details to be transposed from the Technical Specifications to the Bases, UFSAR, TRM, or other plant controlled

"GENERIC" LESS RESTRICTIVE CHANGES:
RELOCATING DETAILS TO TECHNICAL SPECIFICATION BASES, UFSAR, TRM, OR OTHER PLANT CONTROLLED DOCUMENTS
("LA.x" Labeled Comments/Discussions)

3. (continued)

documents are the same as the existing Technical Specifications. Since any future changes to these details in the Bases, UFSAR, TRM, or other plant controlled documents will be evaluated per the requirements of 10 CFR 50.59, no reduction (significant or insignificant) in a margin of safety will be allowed. Based on 10 CFR 50.92, the existing requirement for NRC review and approval of revisions, to these details proposed for relocation, does not have a specific margin of safety upon which to evaluate. However, since the proposed change is consistent with the BWR ISTS, NUREG-1434, Rev. 1, approved by the NRC Staff, revising the Technical Specifications to reflect the approved level of detail ensures no significant reduction in the margin of safety.

"GENERIC" LESS RESTRICTIVE CHANGES:
EXTENDING SURVEILLANCE FREQUENCIES FROM 18 MONTHS TO 24 MONTHS FOR SURVEILLANCES OTHER THAN CHANNEL CALIBRATIONS
("LD.x" Labeled Comments/Discussions)

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change involves a change in the surveillance testing intervals from 18 months to 24 months. The proposed change does not physically impact the plant nor does it impact any design or functional requirements of the associated systems. That is, the proposed change does not degrade the performance or increase the challenges of any safety systems assumed to function in the accident analysis. The proposed change does not impact the Surveillance Requirements themselves nor the way in which the Surveillances are performed. Additionally, the proposed change does not introduce any new accident initiators since no accidents previously evaluated have as their initiators anything related to the frequency of surveillance testing. The proposed change does not affect the availability of equipment or systems required to mitigate the consequences of an accident because of the availability of redundant systems or equipment and because other tests performed more frequently will identify potential equipment problems. Furthermore, an historical review of surveillance test results indicated that all failures identified were unique, non-repetitive, and not related to any time-based failure modes, and indicated no evidence of any failures that would invalidate the above conclusions. Therefore, the proposed change does not increase the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change involves a change in the surveillance testing intervals from 18 months to 24 months. The proposed change does not introduce any failure mechanisms of a different type than those previously evaluated since there are no physical changes being made to the facility. In addition, the Surveillance Requirements themselves and the way Surveillances are performed will remain unchanged. Furthermore, an historical review of surveillance test results indicated no evidence of any failures that would invalidate the above conclusions. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

"GENERIC" LESS RESTRICTIVE CHANGES:
EXTENDING SURVEILLANCE FREQUENCIES FROM 18 MONTHS TO 24 MONTHS FOR SURVEILLANCES OTHER THAN CHANNEL CALIBRATIONS
("LD.x" Labeled Comments/Discussions) (continued)

3. Does this change involve a significant reduction in a margin of safety?

   Although the proposed change will result in an increase in the interval between surveillance tests, the impact on system availability is minimal based on other, more frequent testing or redundant systems or equipment, and there is no evidence of any failures that would impact the availability of the systems. Therefore, the assumptions in the licensing basis are not impacted, and the proposed change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 3.8.1 - AC SOURCES—OPERATING

L.1 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The AC Sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, additional time for repair of an inoperable AC Source will not increase the probability of any accident previously evaluated. The ITS ACTIONS continue to provide adequate assurance of OPERABLE AC Sources and therefore, does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the OPERABILITY of the AC Sources continues to be required. Overlapping inoperabilities of the AC Sources are expected to be infrequent, and any reduction due to the extended time frame is off-set by not subjecting the plant to a shutdown transient.

L.2 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The diesel generators (DGs) are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, eliminating a requirement to start the other DGs when the cause of a DG inoperability is known not to be common, and eliminating a restriction regarding which AC sources can be taken out-of-service concurrently will not increase the probability of any accident previously evaluated. The consequences of an accident will not be increased because the change still provides assurance that a common mode failure has not affected the remaining OPERABLE DGs while enhancing reliability of the remaining OPERABLE DGs by reducing the number of starts required. The ITS ACTION continues to provide adequate assurance of OPERABLE DGs and therefore, does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the requirements to assure common mode failure has not affected the remaining OPERABLE DGs are inherent in the associated Condition. Any potential adverse affect of reduced testing at a time when a DG is out-of-service for planned maintenance or testing has occurred will be offset by the improvement in reliability gained from reduced testing of the remaining OPERABLE DGs. Since the power sources are generally independent and either the other DGs will be tested or common failure cause will be evaluated, the proposed change provides an equivalent assurance of the capability of the DGs to perform their safety function. Additionally, the ITS provides adequate controls regarding the management of removing AC sources from service.

L.3 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The diesel generators (DGs) are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the elimination of an Action which requires starting and/or loading the DGs due to the inoperability of another DG will not increase the probability of any accident previously evaluated. The proposed Action continues to provide adequate assurance of OPERABLE DGsS and, therefore, does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve a physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the OPERABILITY of the DGs, before or after the inoperability of a DG, is determined in the same manner. Since the power sources are generally independent and the other DGs will be tested or common failure cause will be evaluated, the proposed change provides an equivalent assurance of the capability of the DGs to perform their safety function.

L.4 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The diesel generators (DGs) are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the extension of the time provided to perform the Action of starting of a DG due to the inoperability of another DG will not increase the probability of any accident previously evaluated. The proposed time continues to provide adequate assurance of OPERABLE DGs and therefore, does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the OPERABILITY of the DGs, before or after the inoperability of another DG, is determined in the same manner. Since the DGs are generally independent and either the other DGs will be tested or common failure cause will be evaluated, the proposed change provides an equivalent assurance of the capability of the DGs to perform their safety function.

L.5 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change establishes Required Actions for both Division 2 DGs inoperable which will allow 2 hours to attempt to restore one of the DGs to OPERABLE status before requiring the reactor to be in MODE 3 within 12 hours and MODE 4 within 36 hours. Existing specifications require immediate entry into CTS 3.0.3 whenever both Division 2 DGs are inoperable. The probability of an accident is not increased by this change because the inoperability of both Division 2 DGs is not identified as the initiator of any event analyzed in the UFSAR. The consequences of an accident will not be significantly increased because the consequences of an accident with both Division 2 inoperable DGs during the extended time allowed to place the plant in MODE 3 are not different than the consequences of an accident in the time currently allowed by CTS 3.0.3 to place the plant in MODE 3. The additional time allowed to perform the shutdown decreases the probability that the reactor shutdown will result in grid instability and the resultant loss in all offsite power. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   This proposed change will not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which these SSC are operated, maintained, modified, tested, or inspected. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety. The change increases the time allowed to restore a DG to an OPERABLE status, thus, potentially avoiding additional shutdown transients.

L.6 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The diesel generators (DGs) are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the elimination of a requirement to perform surveillance testing during a specific time will not increase the probability of any accident previously evaluated. Procedures will control the establishment of the plant conditions required to perform the SR. The proposed SR continues to provide adequate assurance of OPERABLE DGs and therefore, does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the OPERABILITY of the DGs continues to be determined in the same manner. The tests will continue to be properly scheduled via the process established in the appropriate procedures. Thus, the proposed change does not have a significant effect on reliability, and does not impact the capability of the DGs to perform their safety function.

L.7 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The diesel generators (DGs) are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, elimination of a requirement to stagger the surveillance testing will not increase the probability of any accident previously evaluated. The proposed SR continues to provide adequate assurance of OPERABLE DGs and therefore, does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the OPERABILITY of the DG continues to be determined in the same manner. Staggered testing does not have a significant effect on reliability, and does not impact the capability of the DGs to perform their safety function. Since the DG power sources are independent and common cause failure is evaluated, the proposed change provides an equivalent assurance of the capability of the DGs to perform their safety function.

L.8 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The diesel generators are not assumed to be an initiator of any analyzed event. The diesel generators function to mitigate consequences of an analyzed event by supplying sufficient power to equipment assumed to function during an accident. The diesel generator fuel oil transfer pumps support operation of the diesel generators and therefore, help mitigate the consequences of design basis accidents. The 92 day fuel oil transfer pump frequency is consistent with ASME Section XI requirements for similar pumps. Also, Surveillances of these pumps routinely show that the pumps are OPERABLE. Therefore, this proposed change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   No significant reduction in a margin of safety is involved with this change. The 92 day fuel oil transfer pump frequency has been shown, based on operating experience of other ASME Section XI tested pumps, to be adequate for demonstrating OPERABILITY of the pumps.

L.9 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequence of an accident previously evaluated?

   The DGs are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. The DGs are still tested to ensure their capability to mitigate the consequences of an accident. The tests in question are those that automatically start the DG but do not tie it to a bus. Verification that the minimum voltage and frequency limits are met within the proper time is sufficient to ensure the DG can perform its design function. When called upon, the DG must start and tie within the proper time. Once the minimum voltage and frequency limits are met, the DG can tie to the bus. When a test is performed that does not result in tieing the DG to the bus, a voltage or frequency overshoot can occur since no loads are being tied (the loading tends to minimize the overshoot). This overshoot could be such that the voltage or frequency is outside the band high when the time limit expires. This condition however, is not indicative of an inoperable DG, provided that steady state voltage and frequency are maintained. The time to reach the minimum voltage and frequency has not been changed. Furthermore, since the DG start times are monitored and trend evaluated to identify degradation of governor and voltage regulator performance and since the minimum voltage and frequency limits still ensure the DG can tie to the bus, this change does not involve an increase in the consequences of a previously analyzed accident.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the proposed testing still ensures the DGs can perform their intended function. The allowance to overshoot the upper voltage and frequency bands does not impact the capability of the DG, provided the minimum voltage and frequency are met within the assumed time, and the steady state limits are reached and maintained. The DG start

L.9 CHANGE

3. (continued)

times are monitored and trend evaluated to identify degradation of governor and voltage regulator performance. In addition, other DG tests will continue to show capability of the DGs to start and accept loads while maintaining proper voltage and frequency.

L.10 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   This change removes the requirement to verify that each DG is aligned to provide standby power to the associated emergency buses once per 31 days. This verification is not considered in the initiation of any previously analyzed accident. Therefore, this change does not significantly increase the frequency of such accidents. The requirement to verify that each DG is aligned to provide standby power to the associated emergency buses is not necessary to be included in the ITS because the requirements of ITS 3.8.1, which require the DGs to be OPERABLE, and the associated Surveillance Requirements for the DGs are adequate to ensure the DGs are maintained OPERABLE. In addition, the definition of OPERABILITY and procedural controls on DG standby alignment are sufficient to ensure the DG remains aligned to provide standby power. In general, this type of requirement is addressed by plant specific processes which continuously monitor plant conditions to ensure that changes in the status of plant equipment that require entry into ACTIONS (as a result of failure to maintain equipment OPERABLE) are identified in a timely manner. This verification is an implicit part of using Technical Specifications and determining the appropriate Conditions to enter and Actions to take in the event of inoperability of Technical Specification equipment. In addition, plant and equipment status is continuously monitored by control room personnel. The results of this monitoring process are documented in records/logs maintained by control room personnel, as required. The continuous monitoring process includes re-evaluating the status of compliance with Technical Specification requirements when Technical Specification equipment becomes inoperable using the control room records/logs as aids. Therefore, the explicit requirement to periodically verify that each DG is aligned to provide standby power to the associated emergency buses is considered to be unnecessary for ensuring compliance with the applicable Technical Specification OPERABILITY requirements. The status of compliance with Technical Specification requirements will continue to be monitored to assure the potential consequences are not significantly increased. Therefore, this change does not significantly increase the probability or consequences of any previously analyzed accident.

L.10 CHANGE (continued)

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, this change does not create the possibility of a new or different kind of accident from any previously analyzed accident.

3. Does this change involve a significant reduction in a margin of safety?

   The verification of the status of compliance with Technical Specifications is an implicit part of using Technical Specifications and determining the appropriate Conditions to enter and Actions to take in the event of a failure to meet equipment OPERABILITY requirements. In addition, plant status is continuously monitored by control room personnel. The results of this monitoring process are documented in records/logs maintained by control room personnel, as required. The continuous monitoring process includes re-evaluating the status of compliance with Technical Specification requirements when the status of the plant or equipment changes. Therefore, the explicit requirement to periodically verify that each DG is aligned to provide standby power to the associated emergency buses is considered to be unnecessary for ensuring compliance with the applicable Technical Specification OPERABILITY requirements. The status of compliance with Technical Specification requirements will continue to be monitored to assure the appropriate previously approved actions are taken in the event of a failure to meet Technical Specification requirements. In addition, procedural controls on DG standby alignment will continue to ensure the DG remains aligned to provide standby power. Therefore, this change does not involve a significant reduction in the margin of safety.

L.11 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The requested amendment does not result in any hardware or operating procedure changes. Diesel fuel oil properties are not assumed to be an initiator of any analyzed event. Diesel fuel oil supports the operation of the DGs. As such, it mitigates consequences of a design basis accident by helping to assure the DGs supply power to equipment assumed to function during an accident. The change to the diesel fuel oil check for and removal of accumulated water Surveillance Frequency still provides adequate assurance that diesel fuel oil remains capable of supporting DG OPERABILITY. Therefore, this proposed change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the change involve a significant reduction in a margin of safety?

   No significant reduction in a margin of safety is involved with this change since the 31 day Frequency is adequate for assuring water does not accumulate in the day tanks. Additionally, water content of the fuel oil in the fuel oil storage tanks is checked prior to addition of new fuel and once per 92 days. As such, assurance is provided that the water content of diesel fuel oil in the day tank is within limits and that the diesel fuel oil remains capable of supporting DG OPERABILITY.

L.12 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The phrase "actual or," in reference to the automatic loss of offsite power signal or ECCS actuation signal, as applicable, has been added to the system functional test surveillance test description. This does not impose a requirement to create an "actual" signal, nor does it eliminate any restriction on producing an "actual" signal. While creating an "actual" signal could increase the probability of an event, existing procedures (and the 10 CFR 50.59 control of revisions to them) dictate the acceptability of generating this signal. The proposed change does not affect the procedures governing plant operations or the acceptability of creating these signals; it simply would allow such a signal to be utilized in evaluating the acceptance criteria for the system functional test requirements. Therefore, the change does not involve a significant increase in the probability of an accident previously evaluated. Since the method of initiation will not affect the acceptance criteria of the system functional test, the change does not involve a significant increase in the consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   Use of an actual signal instead of the existing requirement, which limits use to a test signal will not affect the performance or acceptance criteria of the Surveillance. Operability is adequately demonstrated in either case since the system itself can not discriminate between "actual" or "test" signals. Therefore, the change does not involve a significant reduction in a margin of safety.

L.13 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The diesel generators (DGs) are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the elimination of a requirement that the DG be within proper voltage and frequency in 13 seconds after DG is started for the 24 hour run will not increase the probability of any accident previously evaluated. These limits are already tested by other Surveillance Requirements done at the same Frequency or more frequently. These other Surveillances continue to ensure the voltage and frequency limits can be met, thus continuing to ensure DG OPERABILITY. Therefore, this change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   The frequency and voltage limits are continued to be maintained and are currently tested by other Surveillance Requirements at Frequencies consistent with or more frequent than the current requirements being deleted. Therefore, this change does not involve a significant reduction in margin of safety.

L.14 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The diesel generators (DGs) are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the elimination of a requirement to verify the DG lockout features only prevent DG operating when required will not increase the probability of any accident previously evaluated. These features are already tested by other Surveillance Requirements done at the same Frequency or more frequently. These other Surveillances continue to ensure that the DG lockout features do not inadvertently prevent the DG from operating (i.e., the other SRs require a start of the DGs, and the DGs would not start if the lockout features were inadvertently engaged). In addition, the ability of the lockout feature to prevent the DG from starting is not assumed in any accident analysis. If the lockout features are purposely engaged, then the DG would already be assumed to be not functioning. Therefore, this change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   The verification that the DG lockout features prevent DG operating only when required are currently tested by other Surveillance Requirements at Frequencies consistent with or more frequently than the current requirements being deleted. In addition, the failure of the lockout feature to properly lockout the DG when needed is not assumed in any design basis accident. Therefore, this change does not involve a significant reduction in a margin of safety.

L.15 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The requirement to perform the interdependence test after any modification that could affect diesel generator interdependence is not assumed in the initiation of any analyzed event. This requirement was specified in the Technical Specifications to ensure the independence of the diesel generators was positively verified following modifications that could impact diesel generator independence. The proposed deletion of this explicit requirement is considered acceptable since proposed SR 3.0.1 requires the appropriate SRs to be performed to demonstrate OPERABILITY after restoration of a component that caused the SR to be failed. In this case, proposed SR 3.0.1 would require proposed SR 3.8.1.20 to be performed, which requires performance of the diesel generator interdependence test. As a result, the accident consequences are unaffected by this change. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The possibility of a new or different kind of accident from any accident previously evaluated is not created because the proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant.

3. Does this change involve a significant reduction in a margin of safety?

   The proposed deletion of the explicit requirement to perform the interdependence test after any modification that could affect diesel generator interdependence is considered acceptable since proposed SR 3.0.1 requires the appropriate SRs to be performed to demonstrate OPERABILITY after restoration of a component that caused the SR to be failed. In this case, proposed SR 3.0.1 would require proposed SR 3.8.1.20 to be performed, which requires performance of the diesel generator interdependence test. As a result, the existing requirement to perform the interdependence test after any modification that could affect diesel generator interdependence is maintained. Therefore, this change does not involve a significant reduction in a margin of safety.

L.16 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   This change would remove a specific restriction to perform a surveillance, which requires simultaneous starting of all three DGs during shutdown. The change will allow the surveillance to be performed while operating in MODE 1, 2, or 3. The DGs are not considered as an initiator of any previously analyzed accident. Therefore, this change does not significantly increase the probability of such accidents. The appropriate plant conditions for performance of the surveillance will continue to be controlled in plant procedures to assure the potential consequences are not significantly increased. This control method has been previously determined to be acceptable as indicated in Generic Letter 91-04. Therefore, this change does not significantly increase the consequences of any previously analyzed accident.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   This change removes a specific restriction on the plant conditions for performing a surveillance, but does not change the method of performance. The appropriate plant conditions for performance of the surveillance will continue to be controlled in plant procedures to assure the possibility for a new or different kind of accident are not created. This control method has been previously determined to be acceptable as indicated in Generic Letter 91-04. Therefore, this change does not create the possibility of a new or different kind of accident from any previously analyzed accident.

3. Does this change involve a significant reduction in a margin of safety?

   The margin of safety considered in determining the appropriate plant conditions for performing the surveillance will continue to be controlled in plant procedures to assure that there is not significant reduction. This control method has been previously determined to be acceptable as indicated in Generic Letter 91-04. Therefore, the change does not involve a significant reduction in the margin of safety.

L.17 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change increases the Completion Times (in CTS 3.0.5) and allows declaring required feature(s) supported by the inoperable AC source inoperable when the redundant required feature(s) are inoperable whenever one required offsite circuit, one required DG, or two required offsite circuits are inoperable. The probability of an accident is not increased by this change because the concurrent inoperability of offsite circuits and redundant required features is not identified as the initiator of any event analyzed in the UFSAR. The increased Completion Time associated with an AC source inoperable is considered to be less of a risk than subjecting the unit to transients associated with an immediate plant shutdown. In addition, the consequences of an accident during the time permitted by ITS 3.8.1 ACTIONS A, B, C, and D are not different than the consequences of an accident in the 6 hour period allowed by CTS 3.0.5. Also, the ITS ACTIONS will not allow continuous operation such that a complete loss of safety function of critical systems (assumed to function during an accident) can occur as a result of a single failure. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   This proposed change will not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which these SSC are operated, maintained, modified, tested, or inspected. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

L.17 CHANGE (continued)

3. Does this change involve a significant reduction in a margin of safety?

The proposed change increases the Completion Times (in CTS 3.0.5) and allows declaring required feature(s) supported by the inoperable AC source inoperable when the redundant required feature(s) are inoperable whenever one required offsite circuit, one required DG, or two required offsite circuits are inoperable. The increased time allowed prior to assuming a complete loss of safety function of critical systems (features) has not occurred and prior to requiring a plant shutdown, is acceptable based on the small probability of an event requiring the critical systems to maintain assumed consequences, and the desire to minimize plant transients. The requested Completion Times (ACTION A (one required offsite circuit inoperable) allows 24 hours, ACTION D (two required offsite circuits inoperable) allows 12 hours, and ACTIONS B and C (one required DG inoperable) allows 4 hours before the equipment must be declared inoperable) will provide a reasonable time to restore the feature(s) or the AC Sources. The exposure of the plant to the small probability of an event requiring the critical systems during the increased time is insignificant and offset by the benefit of avoiding an unnecessary plant transient. In addition, declaring required feature(s) supported by an inoperable AC source inoperable, as opposed to requiring a plant shutdown per CTS 3.0.5, is considered acceptable since the Required Actions for the affected system Technical Specifications continue to ensure that unit operation is maintained within the bounds of Technical Specifications and approved ACTIONS. The change does not affect the current analysis assumptions. Therefore, this change does not involve a significant reduction in a margin of safety.

L.18 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change extends the out-of-service time for an inoperable qualified offsite circuit to 7 days. Existing specifications require restoration of an inoperable qualified offsite circuit within 72 hours. While the loss of all offsite AC sources is identified as an initiator of an analyzed event in the UFSAR, the probability of an accident is not significantly increased since the proposed out-of service time extension is small and CTS 3.8.2.1Action c already allows a portion a qualified offsite circuit to be inoperable for 7 days. With one qualified offsite circuits inoperable, another offsite AC source (qualified offsite circuit) is still available to effect a safe shutdown and to mitigate the effects of an accident. In addition, the onsite AC sources (DGs) have not been degraded in this condition and are available to mitigate the effects of an accident and maintain the units in a safe shutdown condition in the event of a Design Basis Accident (DBA) or transient on one of the units. In fact, a simultaneous loss of offsite AC sources, a LOCA, and a worst case single failure are postulated as part of the design basis in the safety analysis. In addition, the configuration of the onsite AC sources (DGs) is such that they are not susceptible to a single failure which can cause more than one DG to become inoperable. (At LaSalle as many as three of the four required DGs are required to mitigate the consequences of a DBA or transient and maintain the units in safe shutdown.) Therefore, the 7 day out-of-service time for this condition is considered acceptable since the capability still exists to mitigate the effects of a DBA and maintain the units in safe shutdown and the consequences of a previously evaluated accident are not impacted. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   This proposed change will not involve any physical changes to plant systems, structures, or components (SSC), or the manner in which these SSC are operated, maintained, modified, tested, or inspected. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

L.18 CHANGE (continued)

3. Does this change involve a significant reduction in a margin of safety?

The proposed change extends the out-of-service time for an inoperable qualified offsite circuit to 7 days. Existing specifications require restoration of an inoperable qualified offsite circuit within 72 hours. The proposed change does not involve a significant reduction in a margin of safety because one offsite AC source is still Operable and the onsite AC sources (DGs) have not been degraded in this condition and are available to maintain the units in a safe shutdown condition and mitigate the effects of an accident in the event of a Design Basis Accident (DBA) or transient on one of the units. In fact, a simultaneous loss of offsite AC sources, a LOCA, and a worst case single failure are postulated as part of the design basis in the safety analysis. In addition, the configuration of the onsite AC sources (DGs) is such that they are not susceptible to a single failure which can cause more than one DG to become inoperable. (At LaSalle as many as three of the four required DGs are required to mitigate the consequences of a DBA or transient and maintain the units in safe shutdown.) Therefore, the 7 day out-of-service time for this condition is considered acceptable since the capability still exists to mitigate the effects of a DBA and maintain the units in safe shutdown. The proposed Completion Time avoids the risk associated with an immediate shutdown but minimizes the risk associated with this level of degradation.

L.19 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The offsite power sources associated with Division 3 are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, additional time for repair of an inoperable offsite power source associated with Division 3 will not increase the probability of any accident previously evaluated. The ITS ACTIONS continue to provide adequate assurance of OPERABLE offsite power sources associated with Division 3 and the HPCS System and therefore, does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the OPERABILITY of the HPCS System continues to be required. In addition, the proposed restoration time is consistent with that previously approved by the NRC for an inoperable HPCS DG and an inoperable HPCS System.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 3.8.2 - AC SOURCES — SHUTDOWN

L.1 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   An AC Source is necessary to support the equipment used to mitigate the consequences of an accident; however, the AC Source is not considered the initiator of any previously analyzed accident. As such, the proposed revision to the Surveillance Requirements will not increase the probability of any accident previously evaluated. The proposed SRs continue to provide adequate assurance of OPERABLE DGs and available offsite circuits and therefore, does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the proposed change removes requirements for paralleling the required DG to the required offsite circuit. Omitting this condition represents a significant improvement in the margin of safety by removing the potential for a single fault to affect both required AC power sources.

L.2 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The requirement for the DGs to start on an ECCS initiation signal when the associated ECCS subsystem(s) are not required to be Operable has been deleted. The DGs are not considered the initiator of any previously analyzed accident. As such, the proposed revision to the Surveillance Requirement will not increase the probability of any accident previously evaluated. The ECCS subsystem(s) are not required to be Operable in Mode 5 when the spent fuel storage pool gates are removed and water level is ≥ 22 ft over the top of the reactor pressure vessel flange, or when defueled. The DGs are required to support the equipment powered from the emergency buses. However, when the ECCS subsystem(s) are not required to be Operable, then there is no reason to require the DGs to autostart on an ECCS initiation signal. In addition, the ECCS initiation signal is only an anticipatory start signal; the DGs are only needed during a LOCA if a loss of offsite power occurs concurrently. Therefore, this change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   The requirement for the DGs to start on an ECCS initiation signal when the associated ECCS subsystem(s) are not required to be Operable has been deleted. The ECCS subsystem(s) are not required to be Operable in Mode 5 when the spent fuel storage pool gates are removed and water level is ≥ 22 ft over the top of the reactor pressure vessel flange, or when defueled. The DGs are required to support the equipment powered from the emergency buses. However, when the ECCS subsystem(s) are not required to be Operable, then there is no reason to require the DGs to autostart on an ECCS initiation signal. In addition, the ECCS initiation signal is only an anticipatory start signal; the DGs are only needed during a LOCA if a loss of offsite power occurs concurrently. In addition, the ECCS initiation signal is only an anticipatory start

L.2 CHANGE

3. (continued)

signal; the DGs are only needed during a LOCA if a loss of offsite power occurs concurrently. The DGs are also required to autostart if a loss of offsite power occurs. The requirement to autostart the required DG(s) on a loss of offsite power signal is being maintained in the ITS (proposed SR 3.8.1.11). Thus, when in these conditions (associated ECCS subsystem(s) not required to be Operable), there is no reason to require the DGs to be capable of automatically starting on an ECCS actuation signal (either by itself or concurrent with a loss of offsite power signal). Therefore, this change does not involve a significant reduction in a margin of safety.

L.1 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The diesel generators (DGs) are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the evaluation of operational parameters and allowance of time for restoration of these parameters will not increase the probability of any accident previously evaluated. The proposed ACTIONS continue to provide adequate assurance of OPERABLE DGs since substantial margin for these parameters exists. Therefore, this change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the OPERABILITY of the DGs continues to be determined in the same manner. The substantial margin provided for these parameters allows for some degradation without significantly affecting the capability of the DG to perform its safety function. Since the degradation is limited in both capacity and time, it is not considered significant.

L.2 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The diesel generators (DGs) and their support functions (e.g., starting air) are used to support mitigation of the consequences of an accident, but they are not considered as the initiator of any previously analyzed accident. As such, the elimination of a requirement to stagger the surveillance testing will not increase the probability of any accident previously evaluated. The proposed SR continues to provide adequate assurance of OPERABLE DGs and their support functions and therefore, does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the OPERABILITY of the DGs and their support functions continues to be determined in the same manner. Staggered testing does not have a significant effect on reliability, and does not impact the capability of the DGs and their support functions to perform their safety function. Since the DG power sources are independent and common failure cause is evaluated, the proposed change provides an equivalent assurance of the capability of the DGs and their support functions to perform their safety function.

L.3 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The diesel generators (DGs) are not assumed to be an initiator of any analyzed event. The DGs function to mitigate the consequences of an analyzed event by supplying sufficient power to equipment assumed to function during an accident. The DG fuel oil storage tanks support operation of the DGs and therefore, help mitigate the consequences of design basis accidents. The proposed change does not impact the capability of the diesel fuel oil storage tanks to perform their intended function, since more frequent DG fuel oil testing will detect sediment and water buildup in the tanks, and testing of the fuel oil transfer pumps and their capability to pump oil through the system piping will ensure the piping is intact. In addition, ASME requirements, as well as other governmental regulations will continue to ensure that the storage tanks meet all requirements. Therefore, this proposed change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   No significant reduction in a margin of safety will result from this change since more frequent DG fuel oil testing will detect sediment and water buildup in the tanks, and testing of the fuel oil transfer pumps and their capability to pump oil through the system piping will ensure the piping is intact. In addition, ASME requirements, as well as other governmental regulations will continue to ensure that the storage tanks meet all requirements.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 3.8.4 - DC SOURCES—OPERATING

L.1 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the removal of the requirement for performance of a surveillance to assure the integrity and quality of the battery terminals and connectors will not increase the probability of any accident previously evaluated. The proposed SRs continue to provide adequate assurance of integrity and quality of the battery terminals and connectors through retention of the periodic surveillance requirement. The initiating circumstances for the conditional surveillance are not directly or immediately likely to cause a degradation in the integrity or quality of the battery terminals or connectors. Therefore, the proposed change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety, since the integrity and quality of the battery terminals and connections will be assured through the periodic performance of the surveillance.

L.2 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the removal of a requirement for clean and tight connections will not increase the probability of any accident previously evaluated. The proposed SRs continue to provide adequate assurance of OPERABLE DC electrical power sources since the resistance measurements and corrosion checks provide sufficient indication of an adequate connection. Therefore, the proposed change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the cleanliness and tightness of the connections will be assured through the evaluation of connection resistance and corrosion checks.

L.3 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the elimination of a requirement to perform surveillance testing during a specific time will not increase the probability of any accident previously evaluated. Procedures will control the establishment of the plant conditions required to perform the SR. The proposed SR continues to provide adequate assurance of OPERABLE DC sources and therefore, does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the OPERABILITY of the DC sources continues to be determined in the same manner. The tests will continue to be properly scheduled via the process establishes in the appropriate procedures. Thus, the proposed change does not have a significant effect on reliability, and does not impact the capability of the DC sources to perform their safety functions.

L.4 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change will allow a modified performance discharge test to be substituted for the service test at any time, instead of the current substitution allowance of a performance discharge test once per 60 months. The DC electrical power sources are not considered the initiator of any previously analyzed accident. As such, the performance of a modified performance discharge test in lieu of a performance discharge test will not increase the probability of any accident previously evaluated. The modified performance discharge test consists of an 4 hour duty cycle with two rates: the 1 minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance discharge test. (The test can consist of a single rate if the test rate employed for the performance discharge test exceeds the 1 minute rate). The service test consists of a four hour duty cycle with two or three rates, depending upon the battery being tested: the 1 minute rate for the largest current load of the duty cycle, the rate based on the steady state loads of the duty cycle (1 minute through 239 minutes), and a final 1 minute rate (if applicable) based on the cycling loads of the duty cycle. For LaSalle 1 and 2 the second rate to be employed for the modified performance discharge test is greater than both the steady state and the cycling loads (1 minute through 240 minutes). In addition, the Technical Specifications will only allow the substitution provided the modified performance discharge test completely envelops the service test. Therefore, while the DC electrical power systems are assumed to mitigate the consequences of an accident, the proposed SR continues to provide adequate assurance of OPERABLE batteries, since the modified performance discharge test represents a suitable test of battery capacity in accordance with accepted industry practices, and is at least as severe as the current service test. Thus, the proposed change does not involve an increase in the probability or consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

L.4 CHANGE (continued)

3. Does this change involve a significant reduction in a margin of safety?

The proposed change will allow a modified performance discharge test to be substituted for the service test at any time, instead of the current substitution allowance of a performance discharge test once per 60 months. The modified performance discharge test consists of an 8 hour duty cycle with two rates: the 1 minute rate published for the battery or the largest current load of the duty cycle, followed by the test rate employed for the performance discharge test. (The test can consist of a single rate if the test rate employed for the performance discharge test exceeds the 1 minute rate.) The service test consists of a four hour duty cycle with two or three rates, depending upon the battery being tested: the 1 minute rate for the largest current load of the duty cycle, the rate based on the steady state loads of the duty cycle (1 minute through 239 minutes), and a final 1 minute rate (if applicable) based on the cycling loads of the duty cycle. For LaSalle 1 and 2, the second test rate to be employed for the modified performance discharge test is greater than both the steady state and the cycling loads (1 minute through 240 minutes). In addition, the Technical Specifications will only allow the substitution provided the modified performance discharge test completely envelops the service test.

This proposed change will permit LaSalle 1 and 2 to perform the modified performance discharge test at any time in lieu of the service test. The additional deep cycles that will result from performing the modified performance discharge test more frequently will not significantly affect the batteries. Each battery is designed for 30 deep cycles; performing a modified performance discharge test every refueling outage will only increase the number of deep cycles resulting from testing from four (based on the current 60 month requirement) to 10 (the proposed refueling outage interval is 24 months). Thus, there are still 20 deep cycles remaining for any plant required DC challenges. However, if an excess number of challenges are used, the battery can always be replaced at an earlier date (i.e., before the nominal 20 year service life expires). Performing the modified performance discharge test every refueling outage instead of the current 60 month requirement will allow LaSalle 1 and 2 to better trend the battery capacity with more data points (over a 20 year battery service life, 10 trend points if the test is performed every 24 months versus only four trend points if performed every 60 months). At the same time, the service use of the battery is continuing to be verified every cycle. This will also allow LaSalle 1 and 2 to more accurately identify when a battery is approaching degradation and allow for corrective action in a more timely manner. This will enhance battery performance. The basis for the current requirement to perform the service test is IEEE-450. This proposed change is supported by the last version of IEEE-450 (1995). Section 5.4 of this standard states "The modified performance discharge test can be used in lieu of a service test at any time."

L.4 CHANGE

3. (continued)

Therefore, this change does not involve a significant reduction in a margin of safety, since the proposed substitution of the modified performance discharge test for the performance discharge test continues to provide adequate indication that the battery is capable of performing its design function.

L.5 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the performance of a modified performance discharge test in lieu of a performance discharge test will not increase the probability of any accident previously evaluated. The proposed SR continues to provide adequate assurance of OPERABLE batteries, since the modified performance discharge test represents a suitable test of battery capacity in accordance with accepted industry practices. Therefore, the proposed change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety, since the proposed substitution of the modified performance discharge test for the performance discharge test continues to provide adequate indication that the battery is capable of performing its design function.

L.6 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. The proposed change provides a 24 month Frequency for conduct of a performance discharge test or modified performance discharge test, when the battery life has reached 85% of the expected life, but retains greater than 100% of the manufacturer's capacity rating. This Frequency is a relaxation of the existing Frequency of 12 months, however since it only applies when the battery retains greater than 100% of the manufacturer's specified capacity, the change does not result in a significant effect on the overall battery reliability or capability to perform its required function. Therefore, the proposed change does not involve an increase in the probability or consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety, since the proposed frequency change only affects battery testing while the battery retains a capacity greater than the manufacturer's capacity rating and is therefore fully capable of performing its required safety function.

L.7 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, a change in the battery charger capacity test duration will not increase the probability of any accident previously evaluated. The proposed SR continues to provide adequate assurance of OPERABLE battery chargers, since the test represents a suitable test of battery charger capacity in accordance with previously accepted practices. Therefore, the proposed change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety, since the proposed duration for the test continues to provide adequate indication that the battery charger is capable of performing its design function.

L.1 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   A DC power source is necessary to support the equipment used to mitigate the consequences of an accident; however, the DC power source is not considered the initiator of any previously analyzed accident. As such, the proposed revision to the Surveillance Requirements will not increase the probability of any accident previously evaluated. The proposed SRs continue to provide adequate assurance of OPERABLE batteries. Therefore, this change does not involve an increase in the probability or consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the proposed change removes requirements for rendering the required battery inoperable. Omitting this condition represents a significant improvement in the margin of safety by removing the potential for an event without the required power source.

L.2 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   A DC electrical power source is necessary to support the equipment used to mitigate the consequences of an accident; however, the DC electrical power source is not considered the initiator of any previously analyzed accident. As such, the proposed extension to the Completion Time to declare the subsystem inoperable will not increase the probability of any accident previously evaluated. The proposed Completion Time of 1 hour continues to provide adequate assurance that the actions are completed in a safe and efficient manner. The consequences of an event occurring during the proposed 1 hour time period are the same as the consequences of an event occurring while the current actions are being taken to suspend plant activities. Therefore, this change does not involve an increase in the probability or consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the alignment has only been extended by one hour. The hour time period provides sufficient time to safely perform the alignment and effectively precludes the requirement to declare the associated distribution system inoperable and stopping plant activities. The change is acceptable since the time allowed is short and allows operations to concentrate on restoring power to the required equipment, while minimizing the risk associated with an event occurring during this time period which would require the affected equipment to be Operable.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 3.8.6 - BATTERY CELL PARAMETERS

L.1 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power subsystems are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, the removal of this Surveillance following a battery discharge or overcharge will not increase the probability of any accident previously evaluated. The proposed SR Frequency continues to provide adequate assurance of OPERABLE batteries since the battery cell temperatures are not significantly affected (i.e., battery temperature does not normally decrease) by a severe discharge or overcharge. Therefore, the proposed change does not involve any increase to the consequence of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the SR Frequency will continue to assure the batteries are not degraded beyond current accepted temperature allowances and severe discharges normally increase, not decrease, temperature.

L.2 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, a temporary change in battery electrolyte level due to an equalizing charge will not increase the probability of any accident previously evaluated. The proposed LCO and SRs continue to provide adequate assurance of OPERABLE batteries since the temporary change in level does not affect the battery's capability to perform its required function. Therefore, the proposed change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the cause of the change in electrolyte level is understood, known to be temporary, and recognized as not impacting the battery capability to perform the safety function.

L.3 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, replacing the requirement to monitor specific gravity with a requirement to monitor the battery charging current will not increase the probability of any accident previously evaluated. The proposed LCO and SRs continue to provide adequate assurance of OPERABLE batteries since the change in ensuring the battery state-of-charge does not affect the battery's capability to perform its required function. Therefore, the proposed change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the new monitoring requirement provides at least the same level of monitoring of the battery's state-of-charge as does the current requirement. In addition, the new requirement provides more accurate information of the battery's state-of-charge during a battery recharge. Therefore, this change does not involve a significant reduction in a margin of safety.

L.4 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC power sources are not assumed to be initiators of any analyzed event. Their role is in providing power to components required in the mitigation of design basis accidents, thereby limiting consequences. The proposed change will not allow continuous operation when sufficient battery capacity to perform the intended function does not exist. The proposed change allows 31 days for restoration of battery cell parameters provided Category C parameter limits are met. In addition, the consequences of an event occurring during the proposed Completion Time are the same as the consequences of an event occurring under the current ACTIONS. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. The proposed change will still ensure sufficient battery capacity exists to perform the intended function. Therefore, this change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   The increased time allowed to continue operation with degraded batteries prior to requiring the batteries to be declared inoperable is acceptable based on the small probability of an event requiring the DC power sources to perform their intended function and the desire to minimize unnecessary plant transients. The requested allowed outage time will provide sufficient time to restore battery cell parameters without placing the unit in a shutdown transient. During the requested allowed outage time, the battery will still be capable of performing its intended function even though it may be degraded (Category C Limits are required to be met during this allowed outage time). As such, any reduction in a margin of safety will be insignificant and offset by the benefit of avoiding an unnecessary plant transient.

L.5 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The 250V DC power source is not assumed to be an initiator of any analyzed event. Its role is in providing power to components required for safe shutdown following transients, thereby limiting their consequences. The proposed change will not allow continuous operation when sufficient battery capacity to perform the intended function does not exist. The proposed change allows 31 days for restoration of battery cell parameters provided Category C parameter limits are met. In addition, the consequences of an event occurring during the proposed Completion Time are the same as the consequences of an event occurring under the current ACTIONS. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. The proposed change will still ensure sufficient battery capacity exists to perform the intended function. Therefore, this change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   The increased time allowed to continue operation with a degraded battery prior to requiring the battery to be declared inoperable is acceptable based on the small probability of an event requiring the DC power source to perform its intended function and the desire to minimize unnecessary plant transients. The requested allowed outage time will provide sufficient time to restore battery cell parameters without placing the unit in a shutdown transient. During the requested allowed outage time, the battery will still be capable of performing its intended function even though it may be degraded (Category C Limits are required to be met during this allowed outage time). As such, any reduction in a margin of safety will be insignificant and offset by the benefit of avoiding an unnecessary plant transient.

L.6 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The DC electrical power sources are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, revising the acceptance criteria for individual cell voltage or deleting degradation limits will not increase the probability of any accident previously evaluated. The proposed LCO and SRs continue to provide adequate assurance of OPERABLE batteries since the change continues to ensure the battery state-of-charge does not affect the battery's capability of perform its required function, and degradation of the battery is still monitored by service tests and modified performance discharge or performance discharge tests. Therefore, the proposed change does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   The proposed individual cell voltage limits are consistent with those recommended by the IEEE-450 Battery Working Group, and approved for Technical Specification application by the NRC. These cell voltage limits, as well as the battery terminal voltage limits, continue to ensure the batteries can perform their safety function. In addition, degradation is still monitored by service tests and modified performance discharge or performance discharge tests. Therefore, this change does not involve a significant reduction in the margin of safety.

L.7 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   This change would allow the battery cell electrolyte temperature limit for the 125V 1E batteries to be lowered an infinitesimally small amount to be equal to 60°F and still be within limit. The battery cell electrolyte temperature limit is not considered an initiator of any previously analyzed accident. Therefore, this change does not significantly increase the probability of such accidents. The proposed change would allow continued operation with an electrolyte temperature at exactly 60°F. The consequences of an event that may occur with a battery cell electrolyte temperature of exactly 60°F would not be any different than an event that occurs at slightly greater than 60°F since the design calculation for the 125V 1E batteries assume battery cell electrolyte temperature is greater than or equal to 60°F. Therefore, this change does not significantly increase the consequences of any previously analyzed accident.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not involve any design changes, plant modifications, or changes in plant operation. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change would allow the battery cell electrolyte temperature limit for the 125V 1E batteries to be lowered an infinitesimally small amount to be equal to 60°F and still be within limit. The design calculation for the 125V 1E batteries assumes battery cell electrolyte temperature is greater than or equal to 60°F. Therefore, this change does not involve a significant reduction in the margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 3.8.7 - DISTRIBUTION SYSTEMS—OPERATING

L.1 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change will allow more than one AC or DC electrical power distribution subsystem to be inoperable provided a loss of function does not occur. The electrical power distribution system is not an assumed initiator of any previously analyzed accident. Therefore, the change will have no impact on the probability of an accident previously analyzed. This change will not significantly increase the consequences of any accident previously evaluated because adequate electrical power distribution subsystems continue to be available to support the features necessary to respond to an analyzed event.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   This proposed change will not involve any physical changes to plant systems, structures, or components. Any changes in normal plant operation do not alter assumptions made in the safety analysis and licensing basis. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   The proposed change continues to provide assurance that the appropriate electrical power distribution subsystems are available. Furthermore, the change recognizes that there is a potential for decreased safety if the unit operators attention is diverted from the evaluations and action necessary to restore power to the affected electrical power distribution subsystem. As a result, any reduction in a margin of safety will be insignificant and offset by the benefit gained in reducing unnecessary plant shutdown transients when equivalent compensatory measures exist to ensure no loss of safety function exists. There is no detrimental impact on any equipment design parameter, and the plant will still be required to operate within prescribed limits. Therefore, the change does not involve a significant reduction in the margin of safety.

L.2 CHANGE

In accordance with the criteria set forth in 10 CFR 50.92, ComEd has evaluated this proposed Technical Specifications change and determined it does not represent a significant hazards consideration. The following is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The opposite unit's Division 1 bus/breaker which supports the alternate offsite circuit, and the opposite unit's Division 2 buses, which support a few required loads, are used to support mitigation of the consequences of an accident; however, they are not considered the initiator of any previously analyzed accident. As such, additional time for repair of an inoperable opposite unit bus will not increase the probability of any accident previously evaluated. The ITS ACTIONS continue to provide adequate assurance of OPERABLE opposite unit buses and therefore, does not involve an increase in the consequences of any accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   This change does not involve a significant reduction in a margin of safety since the OPERABILITY of the opposite unit buses continues to be required. Overlapping inoperabilities of the AC Sources are expected to be infrequent, and any reduction due to the extended time frame is off-set by not subjecting the plant to a shutdown transient. In addition, the proposed time is consistent with the current time if the equipment supported by the opposite unit's buses (e.g., alternate offsite circuit and standby gas treatment subsystem) were inoperable for a reason other than a de-energized opposite unit bus.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 3.8.8 - DISTRIBUTION SYSTEMS—SHUTDOWN

There were no plant specific less restrictive changes identified for this Specification.

NO SIGNIFICANT HAZARDS CONSIDERATION
CTS: 3/4.8.3.1 - AC CIRCUITS INSIDE PRIMARY CONTAINMENT

There were no plant specific less restrictive changes identified for this Specification.

NO SIGNIFICANT HAZARDS CONSIDERATION
CTS: 3/4.8.3.2 - PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

There were no plant specific less restrictive changes identified for this Specification.

NO SIGNIFICANT HAZARDS CONSIDERATION
CTS: 3/4.8.3.3 - MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION

There were no plant specific less restrictive changes identified for this Specification.

ENVIRONMENTAL ASSESSMENT
ITS: SECTION 3.8 - ELECTRICAL POWER SYSTEMS

In accordance with the criteria set forth in 10 CFR 50.21, ComEd has evaluated this proposed Technical Specification change for identification of licensing and regulatory actions requiring environmental assessment, determined it meets the criteria for a categorical exclusion set forth in 10 CFR 51.22(c)(9) and as such, has determined that no irreversible consequences exist in accordance with 10 CFR 50.92(b). This determination is based on the fact that this change is being proposed as an amendment to a license issued pursuant to 10 CFR which changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or which changes an inspection or a surveillance requirement, and the amendment meets the following specific criteria:

1. The amendment involves no significant hazards consideration.

   As demonstrated in the No Significant Hazards Consideration, this proposed amendment does not involve any significant hazards consideration.

2. There is no significant change in the type or significant increase in the amounts of any effluents that may be released offsite.

   The proposed change will not result in changes in the operation or configuration of the facility. There will be no change in the level of controls or methodology used for processing of radioactive effluents or handling of solid radioactive waste, nor will the proposal result in any change in the normal radiation levels within the plant. Therefore, there will be no change in the types or significant increase in the amounts of any effluents released offsite resulting from this change.

3. There is no significant increase in individual or cumulative occupational radiation exposure.

   The proposed change will not result in changes in the operation or configuration of the facility which impact radiation exposure. There will be no change in the level of controls or methodology used for processing of radioactive effluents or handling of solid radioactive waste, nor will the proposal result in any change in the normal radiation levels within the plant. Therefore, there will be no increase in individual or cumulative occupational radiation exposure resulting from this change.

Therefore, based upon the above evaluation, ComEd has concluded that no irreversible consequences exist with the proposed change.