TECHNICAL CHANGES - LESS RESTRICTIVE

L.1 (cont'd) 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.

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

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

M.1

ACTION: one or more required — add proposed Required Action A.1 — L.1 — C

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. — add proposed Required Actions A.2.1, A.2.2, and A.2.3 — M.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

Note to ACTIONS

d. The provisions of Specification 3.0.3 are not applicable. — A.3 — add proposed Required Actions A.2.1, A.2.2, and A.2.3

SURVEILLANCE REQUIREMENTS

LA.1

4.8.2.2 At least the above required A.C. distribution system electrical division(s) shall be determined OPERABLE and/or energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/panels. — LA.2

SR 3.8.1.1

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:

1 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 *.

1 — M.1

ACTION:

(one or more required)

add proposed Required Action — L.1 — A.1 — 1 C

ACTION a

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

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. — LA.1 — A.2 — M.3 — add proposed Required Actions A.2.1, A.2.2, and A.2.3

APPLICABILITY *When handling irradiated fuel in the secondary containment. — add proposed Required Action A.2.4 — M.2

A.1

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

M.1

ACTION: one or more required

add proposed Required Action A.1 L.1 C

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. M.2

add proposed Required Actions A.2.4 and A.2.5

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 M.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

add proposed Required Action A.2.4 M.2

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

B

SURVEILLANCE REQUIREMENTS

A.3 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

(See ITS 3.8.5)

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

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

ACTION:

M.1

One or more required — add proposed Required Action A.1 — L.1

C

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. — LA.1 — add proposed Required Actions A.2.4 and A.2.5 — 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.~~ — LA.1 — A.2

add proposed Required Actions A.2.1, A.2.2, and A.2.3 — M.3

add proposed Required Action A.2.4 — M.2

Applicability

*When handling irradiated fuel in the secondary containment.

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"

L.1 An alternative is proposed in the LaSalle 1 and 2 ITS to suspending the movement of irradiated fuel assemblies, CORE ALTERATIONS, or OPDRVS, if being conducted, when a AC or DC distribution system is inoperable (de-energized). The alternative, ITS 3.8.8 Required Action A.1, is to declare the supported required feature(s) inoperable, and continue to conduct operations (e.g., OPDRVs), if the supported required feature(s) ACTIONS allow. Conservative actions can be assured if the supported required feature(s) without the necessary AC or DC distribution system is declared inoperable and the associated ACTIONS of the individual feature(s) taken. These conservative actions are currently approved (or will be approved by the ITS amendment) by the NRC. Therefore, this change is considered acceptable.

RELOCATED SPECIFICATIONS

None

<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; (C)

b. Three diesel generators (DGs)[;] and

~~c. Three automatic sequencers]~~ [2]

(insert LCO) [3]

<Appl 3.8.1.1> <DOC A.4> <DOC L.19> <3.8.1.1 Actd>

APPLICABILITY: MODES 1, 2, and 3.

[3] (1.) [4] (5) [3]

---------------------------NOTE---------------------------

{Division 3} AC electrical power sources are not required to be OPERABLE when High Pressure Core Spray (HPCS) [1] System ~~[2C Standby Service Water System]~~ [2] is inoperable.

(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 [4] {required} 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>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued) <3.8.1.1 Acta, 3.8.1.1 Actc, 3.8.1.1 Acte, 3.8.1.1 Actj> <3.0.5> <3.8.1.2 Actc>	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~~}~~ offsite circuit to OPERABLE status. [4]	72 hours [C] 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>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One [required] DG inoperable.	B.1 Perform SR 3.8.1.1 for OPERABLE [required] offsite circuit(s).	1 hour AND Once per 8 hours thereafter
	AND B.2 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.3.1 Determine OPERABLE DG(s) are not inoperable due to common cause failure. OR B.3.2 Perform SR 3.8.1.2 for OPERABLE DG(s).	[24] hours [24] hours
	AND B.4 Restore required DG to OPERABLE status.	72 hours AND 6 days from discovery of failure to meet LCO

Required Action B.1 and Associated Completion Time not met OR; Division 1, 2, or 3; for reasons other than Condition B.; OR Required opposite unit Division 2 DG inoperable. OR One required Division 1, 2, or 3 DG inoperable and the required opposite unit Division 2 DG inoperable.; 10; 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. [4] Two {required} offsite circuits inoperable. ⟨3.8.1.1 Acte⟩ ⟨3.0.5⟩	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) [5]
	AND	
[5] D.	D.2 [4] Restore one {required} offsite circuit to OPERABLE status.	24 hours
[5] E. [4] One {required} offsite circuit inoperable. ⟨DOC A.7⟩ AND [4] [1] Division 1, 2, or 3 One {required} DG inoperable. ⟨3.8.1.1 Actc⟩ ⟨3.8.1.1 Acth⟩	----------NOTE---------- Enter applicable Conditions and Required Actions of LCO 3.8.[8], "Distribution Systems—Operating," when Condition E is entered with no AC power source to any {division}. [4] ----------	[7] [7] [5] required [9]
	E.1 Restore {required} [4] offsite circuit to OPERABLE status. [5]	12 hours
	OR	
	E.2 [4] Restore {required} DG to OPERABLE status. [5]	12 hours

(continued)

<CTS>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
Two ~~required~~ DGs inoperable.	Restore one ~~required~~ DG to OPERABLE status.	2 hours OR ~~24~~ hours if Division 3 DG is inoperable
OR Division 2 DG and the required opposite unit Division 2 DG inoperable.		
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. Required Action and Associated Completion Time of Condition A, B, C, D, [or] E, or F not met.	G.1 Be in MODE 3. AND G.2 Be in MODE 4.	12 hours 36 hours
H. Three or more ~~required~~ AC sources inoperable.	H.1 Enter LCO 3.0.3.	Immediately

OR
Required Action and associated Completion Time of Required Action B.2, B.3, or B.4 not met.

<CTS>

TSTF-163

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY (13)
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. (11)	a. in ≤ [10] seconds, voltage ≥ [3744] V and frequency ≥ {58.8} Hz; and b. steady state 184 days (4010) (4)
Verify each 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. (4) (4010) (4310) (4)	
SR 3.8.1.8 NOTE— This Surveillance shall not normally be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.	TSTF-283 (4) (C)
Verify [automatic and] manual transfer of [unit power supply] from the [normal] offsite circuit to each [required] (i.e. alternate offsite circuit) and between the [required] alternate offsite circuits. (4)	{18 months] (24) (4)

(continued)

this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the Plant is maintained or enhanced. (C)

⟨CTS⟩

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
⟨4.8.1.1.2.d.2⟩ SR 3.8.1.9 (normally)	this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. TSTF-283 (C)
----------NOTES---------- 1. This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. (4) X 2. If performed with DG synchronized with offsite power, it shall be performed at a power factor ≤ [0.9]. (9) ----------	(13)
Verify each 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 (required)	(24) (4) [18] months X
a. Following load rejection, the frequency is ≤ [69] Hz (7) (14)	66.7 (4)
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.	

(continued)

2. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. (11) (C) 1

<CTS>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
<4.8.1.1.2.d.3> SR 3.8.1.10	⑤ -------------------NOTE------------------- Normally ① [11] [4] This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. [this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.] [TSTF 283] [C] --- [9] (required) Verify each DG ~~operating at a power factor [13] ≤ [0.9]~~ does not trip and voltage is maintained ≤ ~~[5000]~~ (2600) V during and following a load rejection of a load ≥ ~~[5450]~~ kW. ~~and ≤ [5740] kW for [Division 1 and 2] DGs and ≥ [3300] kW and ≤ [3500] kW for [Division 3] DG.~~ [4]		~~[18]~~ (24) [4] months

(continued)

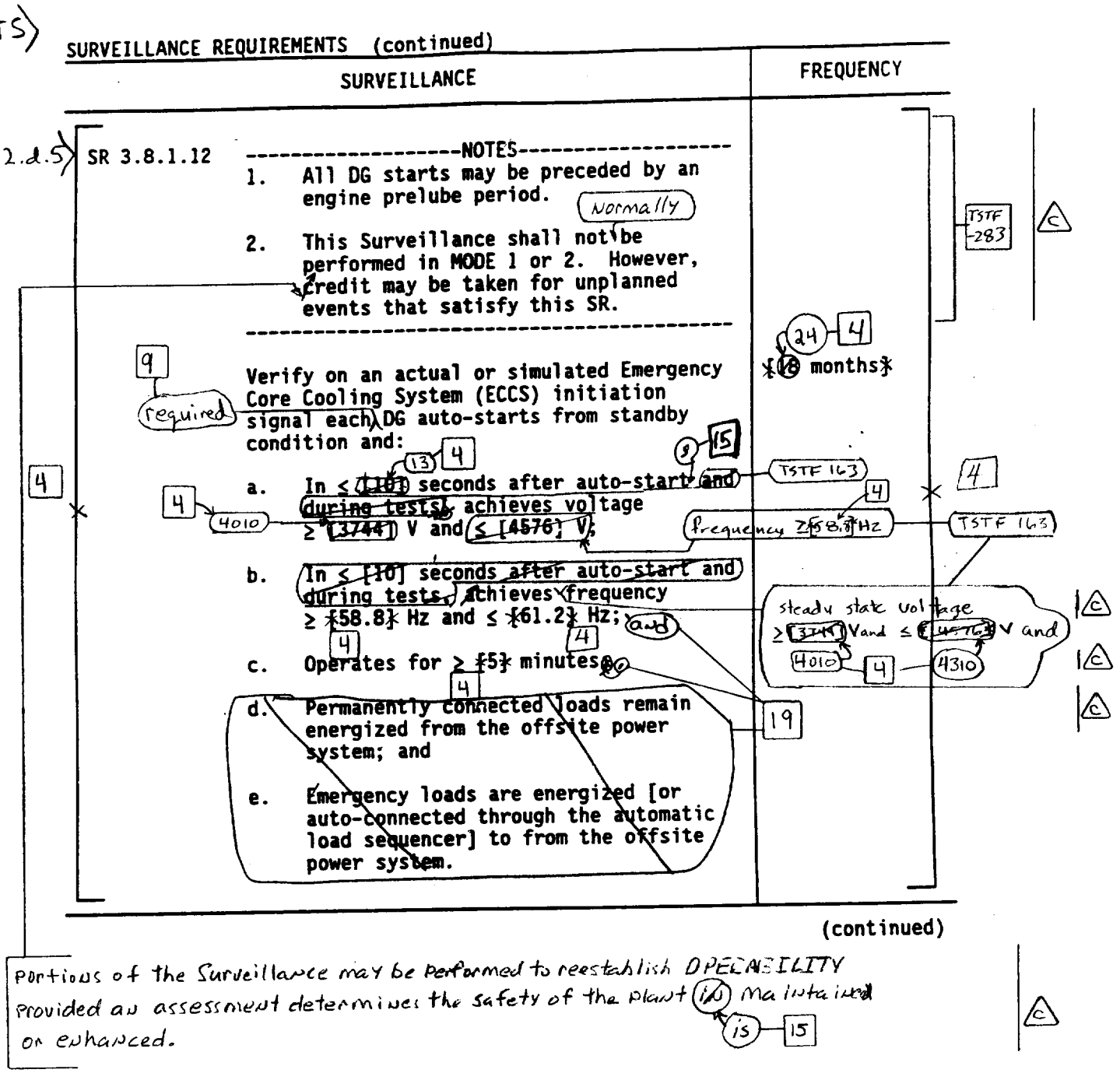
2. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. [11] [C]

<CTS>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
<4.4.8.1.2.d.4> SR 3.8.1.11	-------------------NOTES------------------- 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. [12] (Portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. [15]) --- 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 [1]); 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] 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. [4]	TSTF-283 [18] 24 months [4]

(continued)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SURVEILLANCE REQUIREMENTS (continued)
SURVEILLANCE
FREQUENCY
4.8.1.1.2.d.5
SR 3.8.1.12
NOTES
1. All DG starts may be preceded by an engine prelube period.
Normally
2. This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.
Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and:
required
a. In ≤ [10] seconds after auto-start and during tests, achieves voltage ≥ [3744] V and ≤ [4576] V;
b. In ≤ [10] seconds after auto-start and during tests, achieves frequency ≥ [58.8] Hz and ≤ [61.2] Hz;
c. Operates for ≥ [5] minutes;
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.
24 months
TSTF-283
TSTF 163
Frequency ≥ 58.8 Hz
steady state voltage ≥ 3744 V and ≤ 4576 V and
4010
4310
and
19
(continued)
Portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.
15

<CTS>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
<4.8.1.1.2.d.7> SR 3.8.1.13	------------------NOTE------------------ This Surveillance shall not (Normally) be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. [12] [4] -- Verify each (required) 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: [9] [4] a. Engine overspeed; [and] [4] b. Generator differential current[;] . [4] c. Low lube oil pressure; d. High crankcase pressure; and e. Start failure relay].	[18] (24) months [4] [TSTF-283]

this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.

3. 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

<CTS>

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. 2. This Surveillance shall not (normally) be performed in MODE 1 or 2 (unless the other two DGs are OPERABLE. If either of the other two DGs becomes inoperable, this Surveillance shall be suspended 12). However, credit may be taken for unplanned events that satisfy this SR. 4. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units. 11 --- Verify each (required 9) DG operating (within the 13) ~~at a~~ power factor (limit) ~~≤ [0.9] for Division 1 and 2 DGs, and ≤ [0.9] for Division 3 DG,~~ 2 operates for ≥ 24 hours: a. For ≥ ~~2~~ 4 hours loaded ≥ ~~[5450]~~ 2860 4 kW ~~and ≤ [5740] kW for Division 1 and 2 DGs, ≥ [3630] kW and ≤ [3830] kW for Division 3 DG~~ 2; and b. For the remaining hours of the test loaded ≥ ~~[3744]~~ 2400 4 kW and ≤ ~~[4576]~~ 2600 4 kW ~~for Division 1 and 2 DGs, and ≥ [3300] kW and ≤ [3500] kW for Division 3 DG~~ 2.	~~[18]~~ 24 4 months this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. TSTF-283 C

(continued)

C

⟨CTS⟩

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 ≥ {2} hours loaded ≥ [4500] kW and ≤ [5000] kW for [Division 1 and 2] DGs, and ≥ [3300] kW and ≤ [3500] kW for Division 3 DG. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period.	TSTF-163 {18 months}
Verify each required DG starts and achieves in ≤ [10] seconds, voltage ≥ [3744] V and ≤ [4576] V and frequency ≥ {58.8} Hz and ≤ {61.2} Hz.	
⟨4.8.1.1.2.d.10⟩ SR 3.8.1.16	
NOTE This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.	this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. TSTF-283
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.	{18 months}

(continued)

11 3. A single test of the common DG at the specified Frequency will satisfy the Surveillance for both units.

Portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced [15]

<CTS>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
<4.8.1.1.2.d.11> SR 3.8.1.17	-------------------NOTE------------------- This Surveillance shall not [Normally] 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. [4]	[TSTF-283] {18} (24) [4] months [4] a. For Divisions 1 and 2 DGs, [1]
<4.8.1.1.2.d.12> SR 3.8.1.18	-------------------NOTE------------------- This Surveillance shall not [Normally] be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. [12] [4] -- [1] For Division 1 and 2 DGs only, Verify interval between each sequenced load block is within ± 10% of design interval ≥ 90% of the design interval [21] for each load sequencer timer time delay relay [4].	[TSTF-283] [4] {18} (24) [4] months

(continued)

this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.

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 ----------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~~ ~~or 3~~ ~~or 4~~. 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; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ 10 seconds, 2. energizes auto-connected emergency loads through ~~load sequencer~~, 3. ~~achieves~~ steady state voltage ≥ {3744} V and ≤ {4576} V, 4. ~~achieves~~ steady state frequency ≥ {58.8} Hz and ≤ {61.2} Hz, and 5. supplies permanently connected and auto-connected emergency loads for ≥ {5} minutes.	24 months{}

Portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant (10) is maintained or enhanced. [15]

normally [12]

TSTF-283 [C]

[4]

for Divisions 1 and 2 only [1]

[4] including [16] maintains

[4] time delay relays, where applicable [C]

(continued)

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. ISTS SR 3.8.1.14 is modified by a Note which states the Surveillance shall not be performed in MODE 1 or 2. This Note has been modified in the ITS for LaSalle 1 and 2 to allow the SR to be performed in MODE 1 or 2 provided the other two DGs are OPERABLE. A recent license amendment (Amendment 143 - Unit 1 and Amendment 129 - Unit 2) approved this modification test restriction for the DG 24 hour run test. In addition, the MODE 3 restriction has not been included in SR 3.8.1.11, SR 3.8.1.13, SR 3.8.1.16, SR 3.8.1.17, SR 3.8.1.18, and SR 3.8.1.19, consistent with the CTS (CTS requires the SRs to be done "during shutdown," and MODE 3 is a shutdown MODE). 

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 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.

13. (continued)

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 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

13. (continued)

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. ISTS SR 3.8.1.12, the DG start on an ECCS signal test, requires a verification that the permanently connected and auto-connected loads are energized from the offsite power system (parts d and e). These verifications have not been included in ITS SR 3.8.1.12. The LaSalle design does not include any time delay relays that delay start of the ECCS pumps when offsite power is available. The buses are also not load shed when offsite power is still available. The loss of offsite power test (ITS SR 3.8.1.11), the LSFT for the loss of voltage instrumentation in ITS 3.3.8.1, and the ECCS system functional tests in ITS 3.5.1 provide proper testing of the components to ensure they function following an ECCS actuation signal. In addition, these two verifications are not required in the Current Technical Specifications. Appropriate changes to parts b and c have also been made due to these deletions.

20. Not used. 

21. ISTS SR 3.8.1.18 requires verification that the interval between each sequenced load block is within ± 10% of design interval for each load sequence timer. The SR is proposed to be changed to delete the upper 10% limit, such that the interval between each load block is only required to be ≥ 90% of the design load interval. 

21. (continued)

As stated in the ISTS Bases, the purposes of the 10% load sequence time interval tolerance are to ensure 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. The first purpose is met solely by applying a lower limit. If the interval between two load blocks is greater than 110% of the design interval, the capability of the DG to perform its function is not necessarily impacted. For the first load interval, sufficient time after energizing the first load block to allow the DG to restore frequency and voltage prior to energizing the second load block is still provided, since the minimum time needed is the design interval minus 10%; allowing more time than the design interval plus 10% does not negatively affect the ability of the DG to perform its intended function, with respect to the first load interval. In addition, for the LaSalle design, there are only two load blocks. Therefore, as long as the interval between the two load blocks is $\geq$ 90% of the design interval, the capability of the DG to perform its functions is not impacted.

The second purpose described in the Bases for the SR is not related to the DG; it relates to the ability of the individual loads to perform their assumed functions. Thus, if a time delay was too long, while the individual load may be inoperable, the DG is not inoperable; the DG can still perform its intended function. Thus, the upper limit should not be considered as an operability requirement for the DG. If an individual load timer is too long, only the associated load should be considered inoperable. In addition, many of the load timers (the ones that affect the ECCS pumps) are required by ISTS 3.3.5.1, ECCS Instrumentation; thus the upper limits for these timers will be maintained in the ISTS.

⟨CTS⟩

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources—Shutdown

⟨LCO 3.8.1.2 LCO 3.8.2
LCO 3.8.1.2.a
LCO 3.8.1.2.b⟩

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*, "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 3.8.10; and

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 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.

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.

⟨CTS⟩

⟨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~~ inoperable.	----------NOTE---------- Enter applicable Condition and Required Actions of LCO 3.8.~~10~~, ~~with one~~ required division de-energized as a result of Condition A. ----------	when any
	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.	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

Required offsite circuit of

(continued)

<CTS>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
9 — inoperable <3.8.1.2 Acta> B. LCO Item b. ~~not met~~. 9 — Required DG of	B.1 Suspend CORE ALTERATIONS. AND B.2 Suspend movement of irradiated fuel assemblies in ~~primary and~~ secondary~~}~~ containment. AND B.3 Initiate action to suspend OPDRVs. AND B.4 Initiate action to restore required DG to OPERABLE status.	Immediately Immediately Immediately Immediately
9 — inoperable <3.8.1.2 Actc> C. LCO Item c. ~~not met~~. 9 — Required DG of	C.1 Declare ~~HPCS {and 2G Standby Service Water System}~~ inoperable.	~~{72 hours}~~

4

C

4

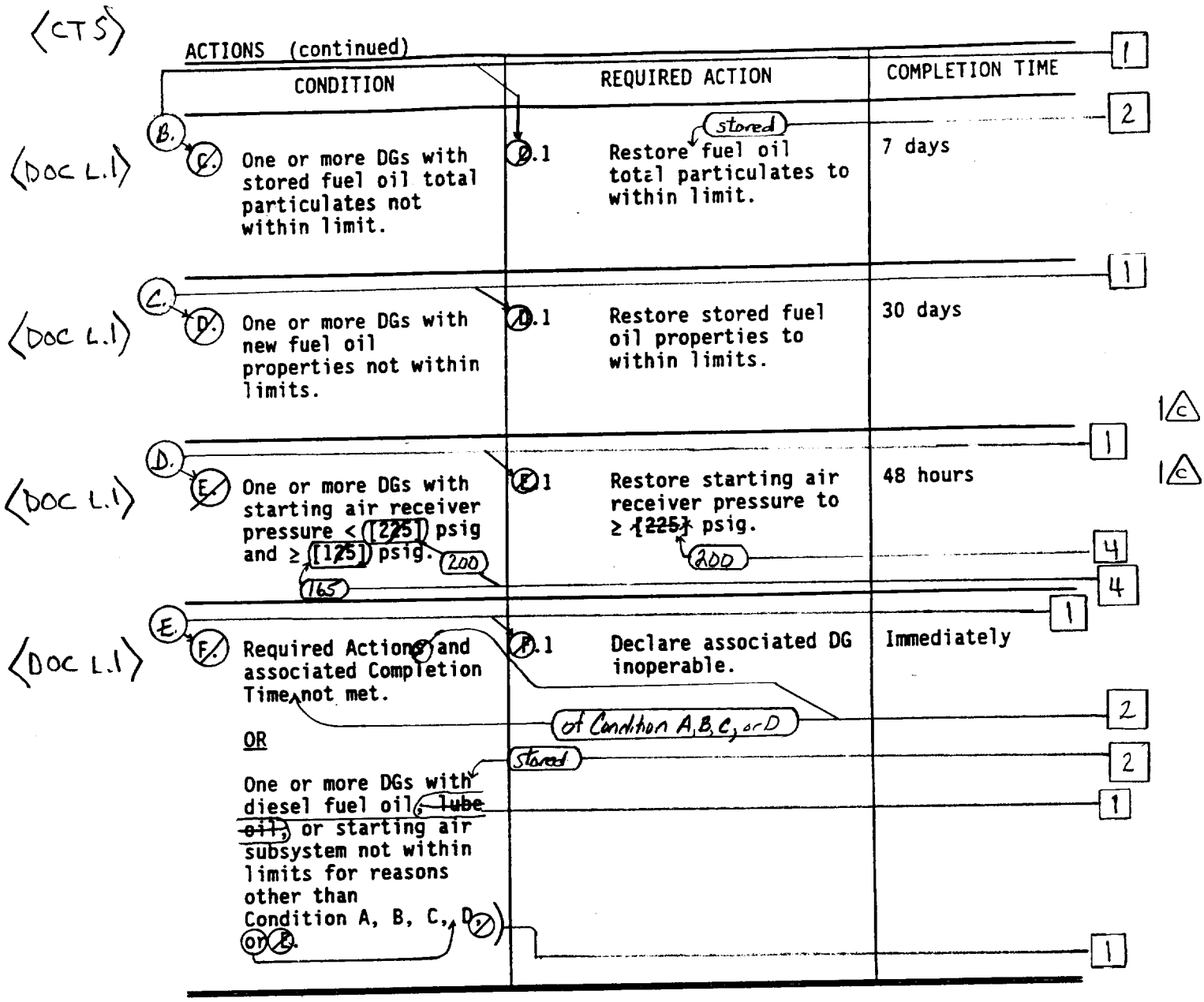
C

High Pressure Core Spray

INSERT ACTION D — 2

9. The Conditions have been modified to clearly state the actual plant condition, in addition to referring to an LCO item.

(C)



ACTIONS (continued)

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 starting air receiver pressure < [225] 200 psig and ≥ [125] 165 psig.	D.1 Restore starting air receiver pressure to ≥ [225] 200 psig.	48 hours
E. Required Action and associated Completion Time not met. OR One or more DGs with diesel fuel oil, [lube 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

<CTS>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains:	31 days
	a. ≥ [62,000] gal of fuel for [DGs 11 and 12;] and	≥ 31,000 gal of fuel for the Division 1 and Division 2 DGs and the opposite unit Division 2 DG.
	b. ≥ [41,200] gal of fuel for [DG 13].	≥ 28,750 gal of fuel in the combined oil storage tank and day tank for the Division 3 DG.
SR 3.8.3.2	Verify lube oil inventory is: a. ≥ [ ] gal for [DGs 11 and 12;] and b. ≥ [ ] gal for [DG 13].	31 days
SR 3.8.3.3	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 3.8.3.4	Verify each DG air start receiver pressure is ≥ [225] 200 psig.	31 days
SR 3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	[31] days
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

<LCO 3.8.1.1.6.1.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>
<DOC A.4>
<4.8.1.2>
<4.8.1.1.2.a.7>
<4.8.1.2>

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS: 3.8.3 - DIESEL FUEL OIL and STARTING AIR

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.

⟨CTS⟩

3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources—Operating

⟨LCO 3.8.2.3⟩ LCO 3.8.4 The {Division 1}, {Division 2}, and {Division 3} DC electrical power subsystems shall be OPERABLE. [1] [C]

(125 VDC and 250 VDC) (125 VDC) (125 VDC)

⟨DOC A.2⟩ ⟨DOC M.1⟩ and the opposite unit Division 2 125 V [C]

⟨Appl 3.8.2.3⟩ ⟨DOC M.1⟩ APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME	
⟨3.8.2.3 Acta⟩ 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] [C]
⟨3.8.2.3 Actb⟩ 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 Acta⟩ Required Action and associated Completion Time not met.	E.1 Be in MODE 3. AND E.2 Be in MODE 4.	12 hours 36 hours	[2]
⟨3.8.2.3 Actc⟩ 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 250VDC electrical power subsystem inoperable.	C.1 Declare associated supported features inoperable.	Immediately	[2] [C]

<CTS>

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
<4.8.2.3.2.c.4> <DOC M.2> SR 3.8.4.6	------------------NOTE------------------ This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ------------------ [4] Verify each [required] battery charger supplies ≥ [400] amps at ≥ [250/125] V for ≥ [8] hours.	TSTF-283 changes not shown. 24 [18] months [1]
<4.8.2.3.2.d> <4.8.2.3.2.e> <DOC M.2> SR 3.8.4.7	------------------NOTES------------------ 1. The modified performance discharge test in SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7 once per 60 months. Provided the modified performance discharge test completely envelops the service test. [5] 2. [4] This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. Portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. [6] ------------------ 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.	for the 125 VDC batteries [TSTF-283] 24 [18] months [1]

(continued)

[1]
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.

<CTS>

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 normally be performed in MODE 1, 2, 3, or 4. However, credit may be taken for unplanned events that satisfy this SR. [4] ---------- Verify battery capacity is ≥ {80}% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	for the 125 VDC batteries [4] 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] TSTF-293 [C]

Portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant (in) is maintained or enhanced. [6]

<DOCA.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. ISTS SR 3.8.4.7 and 3.8.4.8 are modified by a Note which states the Surveillance shall not be performed in MODE 1, 2, or 3. This Note has been modified in the ITS to not include MODE 3, and to not be applicable to the 250 VDC batteries. In addition, the similar Note in ISTS SR 3.8.4.6 has not been included in the ITS. These changes are consistent with the CTS allowances. (C)

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 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

5. (continued)

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."

6. Typographical/grammatical error corrected. 

⟨CTS⟩

3.8 ELECTRICAL POWER SYSTEMS

3.8.5 DC Sources—Shutdown

⟨LCO 3.8.2.4⟩ LCO 3.8.5 The Following

~~DC electrical power subsystem(s)~~ shall be OPERABLE to support the electrical power distribution subsystem(s) required by LCO 3.8.10, "Distribution Systems—Shutdown." [2] [TSTF-204] [C]

⟨DOC A.2⟩ ⟨DOC M.1⟩ [2] INSERT LCO → ~~One~~ DC electrical power subsystem(s) shall be OPERABLE:

⟨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 Acta⟩ ⟨3.8.2.4 Actb⟩ A. ~~One or more~~ required DC electrical power subsystems inoperable.	[B] [4] A.1 Declare affected required feature(s) inoperable.	Immediately
Required Action and associated Completion Time of Condition A not met.	OR [B] [4] A.2.1 Suspend CORE ALTERATIONS.	Immediately
⟨3.8.2.4 Actc⟩ ⟨3.8.2.4 Actd⟩ OR Required opposite unit Division 2 DC electrical power subsystem inoperable.	AND [B] [4] A.2.2 Suspend movement of irradiated fuel assemblies in the ~~primary or~~ secondary ~~containment~~. [2]	Immediately
OR — NOTE — Only applicable when the opposite unit is in MODE 1, 2, or 3.	[4] [B] AND A.2.3 Initiate action to suspend operations with a potential for draining the reactor vessel.	Immediately
[2] ~~One or more~~ required Division 1, 2, and 3 DC electrical power subsystems ~~inoperable~~. [TSTF-204]	AND	[C]

(continued)

(CTS 3.8.2.4) [2] Insert LCO

a. One Division 1 125 VDC or Division 2 125 VDC electrical power subsystem;

b. The Division 3 125 VDC electrical power subsystem, when the Division 3 onsite Class 1E DC electrical power distribution subsystem is required by LCO 3.8.8, "Distribution Systems – Shutdown," and [C]

c. The opposite unit Division 2 125 VDC electrical power distribution subsystem, when the opposite unit Division 2 onsite Class 1E DC electrical power distribution subsystem is required by LCO 3.8.8.

(3.8.2.4 Atc) Insert ACTION A

A.	-------NOTE------- Not applicable when the opposite unit is in MODE 1, 2, or 3. ---------- One or more required 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 [C]
		AND		
		A.2	Restore required Division 1, 2, and 3 DC electrical power subsystem to OPERABLE status.	72 hours [C]

⟨CTS⟩

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

⟨Table 4.8.2.3.2-1⟩
⟨4.7.3.d.1.b⟩
⟨4.7.3.d.1.c⟩
⟨4.7.3.d.2⟩

PARAMETER	CATEGORY A: LIMITS FOR EACH DESIGNATED PILOT CELL	CATEGORY B: LIMITS FOR EACH CONNECTED CELL [4]	CATEGORY C: ~~ALLOWABLE~~ LIMITS FOR EACH CONNECTED CELL [2]
Electrolute 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 equalizing charges provided it is not overflowing. (and, for a limited time, following) [5] [C]

(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, for a limited time, 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. | A

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.

TSTF-204 changes not shown

1

C

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.	Immediately
	OR	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	A.2.2 Suspend handling of irradiated fuel assemblies in the [primary or secondary] containment.	Immediately
	AND	
	A.2.3 Initiate action to suspend operations with a potential for draining the reactor vessel.	Immediately
	AND	

(continued)

<CTS>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. [Division 1 or 2] DC electrical power distribution subsystem inoperable.	C.1 Restore [Division 1 and 2] DC electrical power distribution subsystem to OPERABLE status.	2 hours *AND* 16 hours from discovery of failure to meet LCO
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
E. One or more [Division 3] AC or DC or AC vital bus electrical power distribution subsystems inoperable.	E.1 Declare High Pressure Core Spray System [and 2C Standby Service Water System] inoperable.	Immediately
F. Two or more distribution subsystems that result in a loss of function.	F.1 Enter LCO 3.0.3.	Immediately

Handwritten markups: "125V"; "One or both"; "and"; "(s)"; "3.8.7.a"; "Insert ACTION C"; "both"; "or"; "associated supported features"; "inoperable"; "electrical power"; "in combination"; margin references <3.8.2.3 Act a>, <3.8.2.1 Act a>, <3.8.2.1 Act c>, <3.8.2.3 Act a>, <3.8.2.3 Act c>, <3.8.2.1 Act b>, <3.8.2.3 Act b>, <Doc M.2>, <Doc L.1>, <Doc A.4>.

F. Division 1 250V DC electrical power subsystem inoperable.	F.1 Declare associated supported features inoperable.	Immediately

(CTS)

Insert ACTION 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.	----------NOTE---------- Enter applicable Conditions and Required Actions of LCO 3.8.1 when Condition C results in the inoperability of a required offsite circuit. ----------	
		C.1 Restore required opposite unit Division 2 AC and DC electrical power distribution subsystem(s).	7 days

(C)

9. The phrase "in combination" has been added to ISTS 3.8.9 Condition F (ITS 3.8.7 Condition G) to clarify that the combination of two or more subsystems must result in the loss of function in order to enter this Condition. This has been added since some system functions (e.g., High Pressure Coolant Spray (HPCS)) are lost with the inoperability of one single division. Therefore, if Division 3 is lost such that HPCS is inoperable and an AC bus in Division 1 is inoperable that does not affect other ECCS components, entry into Condition G is not required. In this situation, proposed Condition A is considered acceptable to cover the inoperabilities associated with Division 1 AC bus and Condition E is considered acceptable to cover the inoperabilities associated with Division 3. 

BASES

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.

LCO

Two qualified circuits between the offsite transmission network and the onsite Class 1E Distribution System, and three separate and independent DGs (1, 2, and 3) 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 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.

Each offsite circuit must be capable of maintaining rated frequency and voltage, and accepting required loads during an accident, while connected to the ESF buses. 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 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 unit Division 1, 2, and 3 4.16 kV emergency buses. 1C

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 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 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 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.

Insert LCO-C

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.

Insert LCO-D

APPLICABILITY

The AC sources and sequencers 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.

A Note has been added taking exception to the Applicability requirements for Division 3 sources, provided the (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

(continued)

[1] 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.

In addition, day tank storage and fuel oil transfer system requirements must be met for each required DG.

[1] 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

ACTIONS

A.2 (continued)

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.

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 Times 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

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

(continued)

BASES

ACTIONS

A.3 (continued)

Regulatory Guide assumptions supporting a 24 hour Completion Time for both offsite circuits inoperable. With one 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.

The 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 ~~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, a DG is inoperable and that DG is subsequently returned 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 offsite circuit. At this time, a DG could again become inoperable, the circuit restored OPERABLE, and an additional 72 hours (for a total of 7 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 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 10 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive must be met.

As in Required Action A.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 at the time that Condition A was entered.

(continued)

5 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 72 hours. This situation could lead to a total of 10 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 72 hours (for a total of 13 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. 4 4

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 (continued)

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.

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 6 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.

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.

Required Action B.1 addresses actions to be taken in the event of concurrent failure of redundant required features. Required Action B.1 reduces the vulnerability to a loss of

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.2 and SR 3.8.1.7 (continued)

Surveillances may be preceded by an engine prelube period and followed by a warmup period prior to loading, 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.

In order to reduce stress and wear on diesel engines, some 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, which is only applicable when such procedures are recommended by the manufacturer.

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 seconds. The 10 second start requirement supports the assumptions in the design basis LOCA analysis (Ref. 10). The 10 second start requirement may not be applicable to SR 3.8.1.2 (see Note 3 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 second start requirement of SR 3.8.1.7 applies. Since SR 3.8.1.7 does require a 10 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.

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.

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

(continued)

Insert SR 3.8.1.2-1

In addition to the SR requirements, 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.

4

In addition to the SR Requirements,

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. However, to the extend practicable, the tests should be alternated between units. 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 6

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. However, to the extend practicable, the test should be alternated between units. 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. 10

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

Division 1 and 2

SR 3.8.1.8

3

Division 1 and 2 emergency

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

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

C

(continued)

BASES

SURVEILLANCE REQUIREMENTS

INSERT SR 3.8.1.8 TSTF-283

SR 3.8.1.8 (continued) [3] [C]

safety systems. Credit may be taken for unplanned events that satisfy this SR.

[1]

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 ~~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] ~~As required by IEEE-308 (Ref. 13)~~ Consistent with Regulatory Guide 1.9 (Ref. 3), 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.

TSTF-283

Insert SR 3.8.1.8

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed Surveillance, a successful Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when the Surveillance is performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment. C

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 month] Frequency ~~is~~ consistent with the recommendation ~~of Regulatory Guide 1.108~~ (Ref. ~~9~~). [24] [3] [1]

This SR has been modified by two Notes. 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-283 INSERT SR 3.8.1.9-1 [A]

Insert SR 3.8.1.9-2 [A] [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: [11]

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)

TSTF-283

Insert SR 3.8.1.9-1

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed Surveillance, a successful Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when the Surveillance is performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.

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Insert SR 3.8.1.9-2

C

To minimize testing of the common DG, Note 2 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 3.8.1.10

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.

The ~~[18 month]~~ Frequency is consistent with the ~~recommendation of Regulatory Guide 1.108 (Ref. 9)~~ and is intended to be consistent with expected fuel cycle lengths.

This SR has been modified by ~~a~~ two Notes. The reason for ~~the~~ Note 1 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.

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)

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Insert SR 3.8.1.10-1

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed Surveillance, a successful Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when the Surveillance is performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.

C

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Insert SR 3.8.1.10-2

C

To minimize testing of the common DG, Note 2 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 3.8.1.11 (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.

The Frequency of {18 months} is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(1), takes into consideration unit conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths.

This SR is modified by two Notes. The reason for 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 standby conditions, that is, with the engine ~~coolant~~ and 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.

INSERT SR 3.8.1.11

SR 3.8.1.12

This Surveillance demonstrates that the DG automatically starts and achieves the required voltage and frequency within the specified time ({10} 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.

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

(continued)

TSTF-283

Insert SR 3.8.1.11

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.

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Insert SR 3.8.1.12-1

1 C

. 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)

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.

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.

This SR is modified by two Notes. The reason for 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 standby conditions, that is, with the engine coolant and 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.

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, generator differential current,

(continued)

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Insert SR 3.8.1.12-2

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.13 (continued)

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.

The [18 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.

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.

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)

TSTF -283

Insert SR 3.8.1.13

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed Surveillance, a successful Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when the Surveillance is performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment. C

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.14

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.

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.

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.

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.

INSERT SR 3.8.1.14-1

However, it is acceptable to perform this SR in MODES 1 and 2 provided the other two DGs are OPERABLE, since a perturbation can only affect one divisional DG. If during performance of this SR one of the other DGs becomes inoperable, this Surveillance is to be suspended.

INSERT SR 3.8.1.14-2

(continued)

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Insert SR 3.8.1.14-1

5 In addition, this restriction from normally performing the Surveillance in MODE 1 or 2 with any of the two remaining DGs inoperable is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed Surveillance, a successful Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when the Surveillance is performed in MODE 1 or 2 with any of the two remaining DGs inoperable. Risk insights or deterministic methods may be used for this assessment. 5

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5 Insert SR 3.8.1.14-2

C

Note 3 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. During the Surveillance, the DG is normally operated paralleled to the grid, which is not the configuration when the DG is performing its safety function following a loss of offsite power (with or without a LOCA). Given the parallel configuration to the grid during the Surveillance, the grid voltage may be such that the DG field excitation level needed to obtain the specified power factor could result in a transient voltage within the DG windings higher than the recommended values if the DG output breaker were to trip during the Surveillance. Therefore, 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 4 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.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.16 (continued)

paragraph 2.1.(6), and 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 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.

TSTF-283

INSERT SR 3.8.1.16

SR 3.8.1.17

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 DG 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).

Consistent with Regulatory Guide 1.9 (Ref. 3), paragraph C.2.2.13,

Divisions 1 and 2

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.

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 (18) 24 month 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.

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

(continued)

TSTF-283

Insert SR 3.8.1.16

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed Surveillance, a successful Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when the Surveillance is performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment. (C)

BASES

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.

SR 3.8.1.18

Under accident conditions and loss of offsite power, loads are sequentially connected to the bus by the load sequencing time. 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.

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.

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.

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;

INSERT SR 3.8.1.17

INSERT SR 3.8.1.18-1

INSERT SR 3.8.1.18-2

Since only the Division 1 and 2 DGs have more than one load block, this SR is only applicable to these DGs.

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(continued)

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Insert SR 3.8.1.17

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.

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Insert SR 3.8.1.18-1

C

There is no upper limit for the load sequence time interval since, for a single load interval (i.e., the time between two load blocks), the capability of the DG to restore frequency and voltage prior to applying the second load is not negatively affected by a longer than designed load interval, and if there are additional load blocks (i.e., the design includes multiple load intervals), then the lower limit requirements (-10%) will ensure that sufficient time exists for the DG to restore frequency and voltage prior to applying the remaining load blocks (i.e., all load intervals must be $\geq$ 90% of the design interval).

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Insert SR 3.8.1.18-2

C

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed Surveillance, a successful Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when the Surveillance is performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.18 (continued)

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 months]~~ 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]~~.

This SR is modified by two Notes. The reason for 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~~ jacket water, lube 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.

INSERT SR 3.8.1.19

The prelube period shall be consistent with manufacturer recommendations.

(continued)

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Insert SR 3.8.1.19

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment. 

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.20

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.

The 10 year Frequency is consistent with the recommendations of Regulatory Guide 1.~~108~~ (Ref. ~~9~~).

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.

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

(continued)

BASES (continued)

ACTIONS

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.

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. 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, 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.

(continued)

B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.3 Diesel Fuel Oil, Lube Oil, and Starting Air

BASES

BACKGROUND

Each diesel generator (DG) is provided with a storage tank having a 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 outside tanks, pumps, and piping are located underground. The fuel oil level in the storage tank is indicated in the control room.

Insert B3.8.3 BKGD.A7

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 kinematic viscosity, specific gravity (or API gravity), and impurity level.

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.

Each DG has an air start system with adequate capacity for five successive start attempts on the DG without recharging the air start receiver(s).

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

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.

Since diesel fuel oil, ~~lube oil,~~ and starting air subsystem 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).

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."

The starting air system is required to have a minimum capacity for five successive Division 1 and 2 DG starts ~~attempts~~ without recharging the air start receivers, and three successive Division 3 DG starts.

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, lube oil, and starting air subsystem support LCO 3.8.1 and LCO 3.8.2, stored diesel fuel oil, lube oil, and

(continued)

While each air start receiver set has the required capacity, both air start receiver sets (and associated air start headers) per DG are required to ensure OPERABILITY of the DG.

BASES

ACTIONS

C.1 (continued)

properties were outside limits, there is high likelihood that the DG would still be capable of performing its intended function.

D.1

With starting air receiver pressure < [225] psig, sufficient capacity for five successive DG start attempts does not exist. However, as long as the receiver pressure is > [125] 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,

200

165

F.1

of Condition A, B, C, or D

With a Required Action and associated Completion Time not met, or the stored diesel fuel oil, lube oil, or starting air subsystem not within limits 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

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.

associated fuel oil

for the Divisions 1 and 2 DGs and the opposite unit Division 2 DG and in the associated fuel oil storage tank and day tank for the Division 3 DG

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 3.8.3.3 (continued)

concentration is unlikely to change between Frequency intervals.

SR 3.8.3.4

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 the lowest value at which the [five] 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.

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.

(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.

REFERENCES

1. UFSAR, Section 9.5.4.
2. Regulatory Guide 1.137.
3. ANSI N195, Appendix B, 1976.
4. UFSAR, Chapter 6.
5. UFSAR, Chapter 15.
6. ASTM Standards: D4057-[ ]; D975-[ ]; D4176-[ ]; D975-[ ]; D1552-[ ]; D2622-[ ]; D2276-[ ]; D5452-98; D4294-98; D1298-99; D445-97; D93-99c; D2709-96e;
7. ASME, Boiler and Pressure Vessel Code, Section XI.

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 VDC 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 VDC 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 VDC 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

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))

[5] LCO

Division 1 125 VDC and 250 VDC, Division 2 125 VDC, Division 3 125 VDC, and opposite unit Division 2 125 V

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). [C]

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 [6], are addressed in the Bases for [4] LCO 3.8.5, "DC Sources—Shutdown."

(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.

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

With the Division 3 DC electrical power subsystem inoperable, the HPCS and 2C Standby Service Water System may be incapable of performing its intended functions 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)"]].

<Insert C.1>
<Insert D.1>

C.1 and C.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 VDC 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." 1 (C)

Insert D.1

D.1

If the opposite unit Division 2 125 VDC 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 VDC 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. 1 (C) 1 (C)

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 month intervals. In addition, this Frequency is intended to be consistent with expected fuel cycle lengths. (24) 5 1

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-283 not adopted C

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 SR 3.8.4.7>

The Surveillance Frequency of (24) 18 months 5 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.

This SR is modified by two Notes. Note 1 allows 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 C 5

(continued)

(The test can consist of a single rate if the rate employed for the performance discharge test exceeds the one minute rate and continues to envelope the duty cycle of the service test.) 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.

[1] normally discharge

[9]

[1] when the modified performance discharge test is performed in lieu of a 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.

[4] performance

[5] 125 V

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.

TSTF-283

INSERT SR 3.8.4.7-1

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 described in the Bases for SR 3.8.4.7. Either the battery performance discharge test or the modified performance discharge test is

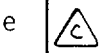
[9]

(continued)

TSTF -283

Insert SR 3.8.4.7-1

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.



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 to 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 manufacturer's rating. All these Frequencies are consistent with the recommendations in IEEE-450 (Ref. 8).

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

REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. Regulatory Guide 1.6, March 10, 1971.
3. IEEE Standard 308, 1978.
4. UFSAR, Section 8.3.2.

(continued)

TSTF -283

Insert SR 3.8.4.8-1

This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow portions of the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed partial Surveillance, a successful partial Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the partial Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when portions of the Surveillance are performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment.

C

5

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).

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-283 change to the Bases has not been adopted since TSTF-283 has not been incorporated into the Surveillance. | A

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 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.

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 10CFR50.36(c)(2)(ii).

LCO The DC electrical power subsystems, each consisting of two battery banks, one or two battery chargers, and required one subsystem

(continued)

TSTF-264 Insert ASA

In general, when the unit is shut down, the Technical Specifications 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 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, 3, and 4 (for PWRs)] [1, 2, and 3 (for BWRs)] have no specific analyses in MODES [5 and 6 (for PWRs)] [4 and 5 (for BWRs)]. Worst case bounding events are deemed not credible in MODES [5 and 6 (for PWRs)] [4 and 5 (for BWRs)] because the energy contained within the reactor pressure boundary, reactor coolant temperature and pressure, and the corresponding stresses result in the probabilities of occurrence being significantly reduced or eliminated, and in minimal consequences. These deviations from DBA analysis assumptions and design requirements during shutdown conditions are allowed by the LCO for required systems.

The shutdown Technical Specification requirements are designed to ensure that the unit has the capability to mitigate the consequences of certain postulated accidents. Worst case Design Basis Accidents which are analyzed for operating MODES are generally viewed not to be a significant concern during shutdown MODES due to the lower energies involved. The Technical Specifications therefore require a lesser complement of electrical equipment to be available during shutdown than is required during operating MODES. More recent work completed on the potential risks associated with shutdown, however, have found significant risk associated with certain shutdown evolutions. As a result, in addition to the requirements established in the Technical Specifications, the Industry has adopted NUMARC 91-06, "Guidelines for Industry Actions to Assess Shutdown Management," as an industry initiative to manage shutdown tasks and associated electrical support to maintain risk at an acceptable low level. This may require the availability of additional equipment beyond that required by the shutdown Technical Specifications.

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).

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:

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

Insert B 3.8.5 ACTION

Insert Actions A.1 and A.2

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.

(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 required 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. 1C

BASES

ACTIONS

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

By allowing the option to declare required features inoperable with associated DC power source(s) 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, 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 required by SR 3.8.4.1 through SR 3.8.4.8. 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

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 above the specified maximum level during equalizing charge, provided it is not overflowing. These limits ensure that the plates suffer no physical damage, and that adequate electron

(a) 4

5 temporarily

5 and, for a limited time, following an

C

(continued)

1 (normally for up to 3 days following the completion of an equalize charge to allow electrolyte stabilization)

C

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS BASES: 3.8.6 - BATTERY CELL PARAMETERS

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 consistent with a generic change being reviewed by the NRC. 16

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.

TSTF-204 changes not shown

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)

TSTF-204 changes not shown

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)

TSTF-204 changes not shown

1

C

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)

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 is divided by division into three independent AC, DC, and AC vital bus electrical power distribution subsystems.

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. 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."

Insert B 3.8.7 Background 1

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

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.

There are three independent 125 VDC electrical power distribution subsystems. The list of all distribution buses is located in Table [8.1-X.X] (B 3.8.7-1 and B 3.8.7-2, respectively) required for Unit 1 and Unit 2.

APPLICABLE SAFETY ANALYSES 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 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

(continued)

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); 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:

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.

LCO

The required AC, DC, and AC vital bus power distribution subsystems listed in Table B 3.8.9-1 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.

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 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].

2 Insert B3.8.7 LCO

For the Division 2 AC power distribution subsystems, if both the unit

In addition, ~~tie breakers~~ at least one between redundant ~~safety related~~ AC, ~~DC, and AC vital bus~~ the Division 2, power distribution subsystems, ~~if they exist,~~ 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)~~ emergency. ~~If any~~ tie breakers are closed, the ~~affected redundant~~ electrical power distribution subsystems ~~are~~ is considered inoperable. ~~This~~ applies to the onsite, 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.

that is not being powered from its normal source (i.e., it is being powered from its alternate power source through the redundant electrical power distribution subsystem)

The restriction of maintaining electrical separation

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.

and other conditions in which AC and DC electrical power distribution subsystems are required

Electrical power distribution subsystem requirements for MODES 4 and 5 are covered in the Bases for LCO 3.8.~~10~~, "Distribution Systems—Shutdown."

ACTIONS

A.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)

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.

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 for Unit 1 and Table B 3.8.7-2 for Unit 2, 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 for Unit 1 and Table B 3.8.7-2 for Unit 2. 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 for Unit 1 and Table B 3.8.7-2 for Unit 2 (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 for Unit 1 and Table B 3.8.7-2 for Unit 2 (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).




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.

The Required Action is modified by a Note indicating that the applicable Conditions of LCO 3.8.1 be entered and Required Actions taken if the inoperable opposite unit AC electrical power distribution subsystem results in an inoperable required offsite circuit. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.

C

BASES

ACTIONS E.1 (continued)

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.

F.1

Condition F corresponds to a level of degradation in the electrical 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.

SURVEILLANCE REQUIREMENTS

SR 3.8.9.1

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.

REFERENCES

1. FSAR, Chapter [6].
2. FSAR, Chapter [15].
3. Regulatory Guide 1.93, December 1974.

Revision 0,

The term "in combination" means that the loss of function must result from the inoperability of two or more AC and DC electrical power distribution subsystems; a loss of function solely due to a single AC or DC electrical power distribution subsystem inoperability even with another AC or DC electrical power distribution subsystem concurrently inoperable, does not require entry into Condition G. In addition, for this ACTION, Division 3 is considered redundant to Division 1 and 2 ECCS.

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

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 B3.8.7-1 and B3.8.7-2

Insert Table B 3.8.7-1 and B 3.8.7-2

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

TYPE	VOLTAGE	DIVISION 1[a]	DIVISION 2[a][b]	DIVISION 3[a]
AC buses	4160 V	141Y	142Y	143
	480 V	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
	120 V	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
DC buses	250 V	MCC 121Y		
	125 V	Distribution Panel 111Y	Distribution Panel 112Y	Distribution Panel 113

(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 the Unit 1 Table.

Insert Table B 3.8.7-1 and B 3.8.7-2 (continued)

Table B 3.8.7-2 (page 1 of 1)
Unit 2 AC and DC Electrical Power Distribution Systems

TYPE	VOLTAGE	DIVISION 1[a]	DIVISION 2[a][b]	DIVISION 3[a]
AC buses	4160 V	241Y	242Y	243
	480 V	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	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	MCC 221Y		
	125 V	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 the Unit 2 Table.

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS BASES: 3.8.7 - DISTRIBUTION SYSTEMS — OPERATING

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.

10. The LCO Bases implies that both the electrical power distribution subsystem powering the redundant subsystem and the redundant subsystem must be declared inoperable if the associated tie breakers are closed. This action would require entry in LCO 3.0.3. In this situation, the single failure criteria may not be met since independence is not maintained, however the safety function is maintained since both subsystems are being powered. The Bases have been revised such that, when both tie breakers between redundant buses (Division 2 AC power distribution subsystem of the two units) are closed, only the electrical power distribution subsystem not being powered from its normal source is declared inoperable. This adequately limits the time the plant may operate with these redundant subsystems connected to each other to the time correctly allowed for one inoperable subsystem. Since these two conditions are essentially equivalent, this change is acceptable. 

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.

(including the opposite unit Division 2 electrical distribution subsystem)

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, DC, and AC vital bus electrical power distribution subsystem requirements for MODES 1, 2, and 3 are covered in LCO 3.8.

(continued)

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 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 → 24 hours while supplying normal steady state loads (Ref. 4). [C]

Division 1, 2 and 3

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).

APPLICABLE SAFETY ANALYSES

The initial conditions of [4] 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. 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

[3] [4]

(continued)

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 addition of an allowance or 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. | A

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 performed via the process established in the appropriate procedures. In addition, an assessment will be made to ensure the safety of the plant is maintained or enhanced if a Surveillance is performed during power operations. 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. | A

L.18 CHANGE

Not used.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 3.8.1 - AC SOURCES—OPERATING

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.

L.20 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 deletion of the upper limit will not increase the probability of any accident previously evaluated. If the interval between two load blocks is greater than 110% of the design interval, the capability of the DG to perform its function is not necessarily impacted. For the first load interval, sufficient time after energizing the first load block to allow the DG to restore frequency and voltage prior to energizing the second load block is still provided, since the minimum time needed is the design interval minus 10%; allowing the more time than the design interval plus 10% does not negatively affect the ability of the DG to perform its intended function, with respect to the first load interval. In addition, it is recognized that if there is an additional load block following the first two described above, then allowing the load interval between the first two load blocks to be longer than the design interval plus 10% could impact the capability of the DG to restore frequency and voltage prior to the start of the third load block. However, the requirement that "each" load block be within the design load interval minus 10% will ensure that the time between the second and third load blocks is sufficient to ensure that the DG can restore frequency and voltage prior to energizing the third load block. The "each" requirement also ensures that all subsequent load intervals (e.g., the third, fourth, etc.) do not impact the capability of the DG to perform its intended function. Therefore, the change does not involve any increase to 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 based on its capability to perform its safety related 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 involve 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 alternative is proposed to suspending operations if an AC source is inoperable that may allow continued movement of irradiated fuel assemblies, core alterations, or operations with the potential for draining the reactor vessel. The alternative is to declare the affected required feature(s) inoperable and continue to conduct operations (e.g., OPDRVs) if the affected required feature(s) ACTIONS allow. Declaring the affected required feature(s) inoperable is not considered as an initiator of a previously analyzed accident. Therefore, the declaration does not significantly increase the probability of an accident previously identified. Since the NRC has previously approved (or will approve by other discussed changes) the affected feature(s) ACTIONS to be taken when the affected feature(s) are inoperable, the consequences of any previously evaluated accidents are not significantly increased. C

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   This change provides for continued performance of previously evaluated operations. Since these operations have been previously considered, their continued performance 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 performance of these operations is maintained by declaring the affected feature(s) inoperable and taking the affected required feature(s) ACTIONS. Since the NRC has previously approved (or will approve by other discussed changes) the affected feature(s) ACTIONS to be taken when the affected feature(s) are inoperable, the change does not involve a significant reduction in the margin of safety.

L.3 CHANGE

Not used.

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?

   An alternative is proposed to suspending operations if a DC source is inoperable that may allow continued movement of irradiated fuel assemblies, core alterations, or operations with the potential for draining the reactor vessel. The alternative is to declare the affected feature(s) inoperable and continue to conduct operations (e.g., OPDRVs) if the affected feature(s) ACTIONS allow. Declaring the affected feature(s) inoperable is not considered as an initiator of a previously analyzed accident. Therefore, the declaration does not significantly increase the probability of an accident previously identified. Since the NRC has previously approved (or will approve by other discussed changes) the affected feature(s) ACTIONS to be taken when the affected feature(s) are inoperable, the consequences of any previously evaluated accidents are not significantly increased.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   This change provides for continued performance of previously evaluated operations. Since these operations have been previously considered, their continued performance 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 performance of these operations is maintained by declaring the affected feature(s) inoperable and taking the affected required feature(s) ACTIONS. Since the NRC has previously approved (or will approve by other discussed changes) the affected feature(s) ACTIONS to be taken when the affected feature(s) are inoperable, the change does not involve a significant reduction in the margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 3.8.8 - DISTRIBUTION SYSTEMS—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 alternative is proposed to suspending operations if an AC or DC distribution system is inoperable that may allow continued movement of irradiated fuel assemblies, core alterations, or operations with the potential for draining the reactor vessel. The alternative is to declare the associated supported required feature(s) inoperable and continue to conduct operations (e.g., OPDRVs) if the associated supported required feature(s) ACTIONS allow. Declaring the associated supported required feature(s) inoperable is not considered as an initiator of a previously analyzed accident. Therefore, the declaration does not significantly increase the probability of an accident previously identified. Since the NRC has previously approved (or will approve by other discussed changes) the associated supported feature(s) ACTIONS to be taken when the associated supported feature(s) are inoperable, the consequences of any previously evaluated accidents are not significantly increased. △c

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   This change provides for continued performance of previously evaluated operations. Since these operations have been previously considered, their continued performance 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 performance of these operations is maintained by declaring the affected feature(s) inoperable and taking the associated supported required feature(s) ACTIONS. Since the NRC has previously approved (or will approve by other discussed changes) the associated supported feature(s) ACTIONS to be taken when the associated supported feature(s) are inoperable, the change does not involve a significant reduction in the margin of safety.

3.9 REFUELING OPERATIONS

3.9.1 Refueling Equipment Interlocks

LCO 3.9.1 The refueling equipment interlocks associated with the reactor mode switch refuel position shall be OPERABLE.

APPLICABILITY: During in-vessel fuel movement with equipment associated with the interlocks when reactor mode switch is in the refuel position.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required refueling equipment interlocks inoperable.	A.1 Suspend in-vessel fuel movement with equipment associated with the inoperable interlock(s).	Immediately
	OR	
	A.2.1 Insert a control rod withdrawal block.	Immediately
	AND	
	A.2.2 Verify all control rods are fully inserted.	Immediately

C

BASES

ACTIONS

A.1, A.2.1, and A.2.2 (continued)

rod withdrawn). Suspension of in-vessel fuel movement shall not preclude completion of movement of a component to a safe position. Alternately, Required Actions A.2.1 and A.2.2 require that a control rod withdrawal block be inserted and that all control rods are subsequently verified to be fully inserted. Required Action A.2.1 ensures that no control rods can be withdrawn. This action ensures that control rods cannot be inappropriately withdrawn since an electrical or hydraulic block to control rod withdrawal is in place. Required Action A.2.2 is normally performed after placing the rod withdrawal block in effect and provides a verification that all control rods are fully inserted. Like Required Action A.1, Required Actions A.2.1 and A.2.2 ensure that unacceptable operations are prohibited (e.g., loading fuel into a core cell with the control rod withdrawn).

SURVEILLANCE REQUIREMENTS

SR 3.9.1.1

Performance of a CHANNEL FUNCTIONAL TEST demonstrates each required refueling equipment interlock will function properly when a simulated or actual signal indicative of a required condition is injected into the logic. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions.

The 7 day Frequency is based on engineering judgment and is considered adequate in view of other indications of refueling interlocks and their associated input status that are available to unit operations personnel.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 26.

2. UFSAR, Section 7.7.13.

3. UFSAR, Section 15.4.1.1.

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.9.2.1

Proper functioning of the refueling position one-rod-out interlock requires the reactor mode switch to be in Refuel. During control rod withdrawal in MODE 5, improper positioning of the reactor mode switch could, in some instances, allow improper bypassing of required interlocks. Therefore, this Surveillance imposes an additional level of assurance that the refueling position one-rod-out interlock will be OPERABLE when required. By "locking" the reactor mode switch in the proper position (i.e., removing the reactor mode switch key from the console while the reactor mode switch is positioned in refuel), an additional administrative control is in place to preclude operator errors from resulting in unanalyzed operation.

The Frequency of 12 hours is sufficient in view of other administrative controls utilized during refueling operations to ensure safe operation.

SR 3.9.2.2

Performance of a CHANNEL FUNCTIONAL TEST on each channel demonstrates the associated refuel position one-rod-out interlock will function properly when a simulated or actual signal indicative of a required condition is injected into the logic. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The 7 day Frequency is considered adequate because of demonstrated circuit reliability, procedural controls on control rod withdrawals, and visual indications available in the control room to alert the operator of control rods not fully inserted. To perform the required testing, the applicable condition must be entered (i.e., a control rod must be withdrawn from its full-in position). Therefore, SR 3.9.2.2 has been modified by a Note that states the CHANNEL FUNCTIONAL TEST is not required to be performed until 1 hour after any control rod is withdrawn.

(c)

(continued)

BASES (continued)

REFERENCES

1. 10 CFR 50, Appendix A, GDC 26.

2. UFSAR, Section 7.7.13.

3. UFSAR, Section 15.4.1.1.

TECHNICAL CHANGES - LESS RESTRICTIVE

"Specific"

L.1 CTS 3.9.1 Action c requires that when a required Refuel position equipment interlock is inoperable, CORE ALTERATIONS (changed to in-vessel fuel movement by Discussion of Change A.3 above) be suspended with equipment associated with the inoperable Refuel position equipment interlock. New actions have been added, ITS 3.9.1 Required Actions A.2.1 and A.2.2, to allow a control rod block to be inserted and to verify all control rods are fully inserted in lieu of suspending in-vessel fuel movement. The purpose of the current requirement is to ensure that operations are not performed with equipment that would potentially not be blocked from unacceptable operations (e.g., loading fuel into a cell with a control rod withdrawn or withdrawing a control rod while fuel is being moved in the reactor pressure vessel). The methods that the refueling interlocks use to prevent these occurrences are to block control rod withdrawal when fuel is being moved and to block movement of the refueling platform and hoist when a control rod is withdrawn. The proposed Required Actions will ensure both these occurrences are prevented. ITS 3.9.1 Required Action A.2.1 will ensure a control rod block is inserted. This will prevent a control rod from being withdrawn when fuel is being moved in the reactor pressure vessel. ITS 3.9.1 Required Action A.2.2 will ensure that all control rods are fully inserted. This will prevent loading fuel into a core cell with the control rod withdrawn. Therefore, since the proposed Required Actions provide equivalent methods for precluding the assumed occurrences, this change is considered acceptable.  

L.2 The normal 7 day periodic Surveillance Frequency of CTS 4.9.1.2 (proposed SR 3.9.1.1) for the CHANNEL FUNCTIONAL TEST of the reactor mode switch refuel position interlocks provides adequate assurance of OPERABILITY. As such, the requirement to perform the Surveillance Requirement "within 24 hours prior to the start of" use of the component has been deleted. If the Surveillance has not been performed within the specified interval, use of the component is not allowed since proposed SR 3.0.1 (CTS 4.0.1) requires a Surveillance be met within the specified Frequency while in the applicable MODE or condition. Proposed SR 3.0.1 (CTS 4.0.3) also states that failure to meet the Surveillance constitutes failure to meet the LCO, which would then require the ACTIONS of the LCO to be taken. If this specific Surveillance Requirement is not performed within the specified Frequency prior to entering the applicable condition, then as soon as the applicable condition is entered, this would result in the LCO not being met. The ACTIONS of ITS 3.9.1 require immediate action to be taken to exit the Applicability of the LCO. Therefore, this effectively ensures that the Applicability of the LCO is not entered with the Surveillance not current. Additionally, plant operational experience has shown the normal periodic Surveillance Frequency to be adequate for maintaining OPERABILITY.

TECHNICAL CHANGES - LESS RESTRICTIVE (continued)

L.3 CTS 4.9.1.3 requires the affected reactor mode switch refuel position interlocks to be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST before resuming control rod withdrawal or CORE ALTERATIONS following repair, maintenance, or replacement of any component that could affect the refuel position interlock. 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, proposed SR 3.0.1 (CTS 4.0.1) requires the appropriate SRs (in this case CTS 4.9.1.2, proposed SR 3.9.1.1) to be performed to demonstrate the OPERABILITY of the affected components. Therefore, explicit post maintenance Surveillance Requirements of CTS 4.9.1.3 are not required and have been deleted from the ITS. Entry into the applicable specified condition without performing this post maintenance testing also continues to be precluded except where allowed, as discussed in the Bases for proposed SR 3.0.1.

RELOCATED SPECIFICATIONS

None

Current Specification 3/4.9.5

REFUELING OPERATIONS

3/4.9.5 COMMUNICATIONS

LIMITING CONDITION FOR OPERATION

3.9.5 Direct communication shall be maintained between the control room and refueling platform personnel.

APPLICABILITY: OPERATIONAL CONDITION 5 during CORE ALTERATIONS*. (E)

ACTION:

When direct communication between the control room and refueling platform personnel cannot be maintained, immediately suspend CORE ALTERATIONS.

SURVEILLANCE REQUIREMENTS (R.1)

4.9.5 Direct communication between the control room and refueling platform personnel shall be demonstrated within one hour prior to the start of and at least once per 12 hours during CORE ALTERATIONS.

*Except movement of control rods with their normal drive system. (C)

Page 1 of 2

Current Specification 3/4.9.5

REFUELING OPERATIONS

3/4.9.5 COMMUNICATIONS

LIMITING CONDITION FOR OPERATION

3.9.5 Direct communication shall be maintained between the control room and refueling platform personnel.

APPLICABILITY: OPERATIONAL CONDITION 5, during CORE ALTERATIONS*. A

ACTION:

When direct communication between the control room and refueling platform personnel cannot be maintained, immediately suspend CORE ALTERATIONS.

SURVEILLANCE REQUIREMENTS R.1

4.9.5 Direct communication between the control room and refueling platform personnel shall be demonstrated within one hour prior to the start of and at least once per 12 hours during CORE ALTERATIONS.

*Except movement of control rods with their normal drive system. A

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<CTS>

3.9 REFUELING OPERATIONS

3.9.1 Refueling Equipment Interlocks

associated with the reactor mode switch refuel position — 1

<LCO 3.9.1.b> LCO 3.9.1 The refueling equipment interlocks shall be OPERABLE.

<LCO 3.9.1 / LCO 3.9.1.b / Appl 3.9.1> APPLICABILITY: During in-vessel fuel movement with equipment associated with the interlocks.

when reactor mode switch is in the refuel position — 1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required refueling equipment interlocks inoperable.	A.1 Suspend in-vessel fuel movement with equipment associated with the inoperable interlock(s).	Immediately

<3.9.1 Act c>

Insert Action A — TSTF-225

3

C

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.1.1	Perform CHANNEL FUNCTIONAL TEST on each of the following required refueling equipment interlock inputs:	7 days
	a. All-rods-in,	
	b. Refuel platform position, and	fuel grapple
	c. Refuel platform [main] hoist, fuel loaded, and	2

<LCO 3.9.1.b.1 / LCO 3.9.1.b.2 / LCO 3.9.1.b.3 / LCO 3.9.1.b.4> <4.9.1.2>

d. Refuel platform frame-mounted hoist, fuel-loaded,
e. Refuel platform trolley-mounted hoist, fuel-loaded, and
f. Service platform hoist, fuel-loaded.

<CTS>
<DOC L.1>

3

TSTF -225

INSERT ACTION A

OR			
A.2.1	Insert a control rod withdrawal block.	Immediately	
AND			
A.2.2	Verify all control rods are fully inserted.	Immediately	C

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

1. The current wording of ISTS 3.9.1 and the associated Applicability could imply that all the refueling equipment interlocks are required at all times during in-vessel fuel movement. The Current Licensing Basis only requires the interlocks associated with the refuel position, not those associated with other positions of the reactor mode switch, and only when the reactor mode switch is in the refuel position, not when it is in the shutdown position. Therefore, to avoid confusion, the LCO and Applicability have been modified to specifically state that the refueling interlocks are those associated with the refuel position, and that it is applicable when the reactor mode switch is in the refuel position. This change is also consistent with TSTF-232.

2. The current licensing basis of LaSalle 1 and 2 refueling equipment interlocks have been provided.

3. The wording in TSTF-225 has been revised consistent with a request by the NRC. 

BASES

LCO (continued)

blocks to prevent operations that could result in criticality during refueling operations.

APPLICABILITY

In MODE 5, a prompt reactivity excursion could cause fuel damage and subsequent release of radioactive material to the environment. The refueling equipment interlocks protect against prompt reactivity excursions during MODE 5. The interlocks are only required to be OPERABLE during in-vessel fuel movement with refueling equipment associated with the interlocks.

3 Insert B 3.9-3(A)

In MODES 1, 2, 3, and 4, the reactor pressure vessel head is on, and no fuel loading activities are possible. Therefore, the refueling interlocks are not required to be OPERABLE in these MODES.

ACTIONS

A.1, A.2.1, and A.2.2 TSTF-225

2 C

With one or more of the required refueling equipment interlocks inoperable, the unit must be placed in a condition in which the LCO does not apply or in-vessel fuel movement with the affected refueling equipment must be immediately suspended. This action ensures that operations are not performed with equipment that would potentially not be blocked from unacceptable operations (e.g., loading fuel into a cell with a control rod withdrawn). Suspension of in-vessel fuel movement shall not preclude completion of movement of a component to a safe position.

Insert B 3.9-3(B)

TSTF-225

Insert B 3.9-3(C)

2 3 C

SURVEILLANCE REQUIREMENTS

SR 3.9.1.1

Performance of a CHANNEL FUNCTIONAL TEST demonstrates each required refueling equipment interlock will function properly when a simulated or actual signal indicative of a required condition is injected into the logic. The CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping, or total channel steps so that the entire channel is tested.

INSERT SR 3.9.1.1

TSTF-205

2 C

(continued)

[3] INSERT B 3.9-3(A)

when the reactor mode switch is in the refuel position. The interlocks are not required when the reactor mode switch is in the shutdown position since a control rod block (LCO 3.3.2.1, "Control Rod Block Instrumentation") ensures control rod withdrawals cannot occur simultaneously with in-vessel fuel movements.

[TSTF -225] INSERT B 3.9-3(B)

or is not necessary. This can be performed by ensuring fuel assemblies are not moved in the reactor vessel or by ensuring that the control rods are inserted and cannot be withdrawn. Therefore, Required Action A.1 requires that [1] [2]

[TSTF -225] INSERT B 3.9-3(C)

Alternately, Required Actions A.2.1 and A.2.2 require that a control rod withdrawal block be inserted and that all control rods are subsequently verified to be fully inserted. Required Action A.2.1 ensures that no control rods can be withdrawn. This action ensures that control rods cannot be inappropriately withdrawn since an electrical or hydraulic block to control rod withdrawal is in place. Required Action A.2.2 is normally performed after placing the rod withdrawal block in effect and provides a verification that all control rods are fully inserted. Like Required Action A.1, Required Actions A.2.1 and A.2.2 ensure that unacceptable operations are prohibited (e.g., loading fuel into a core cell with the control rod withdrawn). [2] [C] [3] [C]

[TSTF -205] Insert SR 3.9.1.1

A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. [C]

BASES

ACTIONS

A.1 and A.2 (continued)

containing no fuel assemblies do not affect the reactivity of the core and, therefore, do not have to be inserted.

SURVEILLANCE REQUIREMENTS

SR 3.9.2.1

Proper functioning of the refueling position one-rod-out interlock requires the reactor mode switch to be in Refuel. During control rod withdrawal in MODE 5, improper positioning of the reactor mode switch could, in some instances, allow improper bypassing of required interlocks. Therefore, this Surveillance imposes an additional level of assurance that the refueling position one-rod-out interlock will be OPERABLE when required. By "locking" the reactor mode switch in the proper position (i.e., removing the reactor mode switch key from the console while the reactor mode switch is positioned in refuel), an additional administrative control is in place to preclude operator errors from resulting in unanalyzed operation.

The Frequency of 12 hours is sufficient in view of other administrative controls utilized during refueling operations to ensure safe operation.

SR 3.9.2.2

TSTF-205

INSERT SR 3.9.2.2

Performance of a CHANNEL FUNCTIONAL TEST on each channel demonstrates the associated refuel position one-rod-out interlock will function properly when a simulated or actual signal indicative of a required condition is injected into the logic. The CHANNEL FUNCTIONAL TEST may be performed by any series of sequential, overlapping, or total channel steps so that the entire channel is tested. The 7 day Frequency is considered adequate because of demonstrated circuit reliability, procedural controls on control rod withdrawals, and visual ~~and audible~~ indications available in the control room to alert the operator of control rods not fully inserted. To perform the required testing, the applicable condition must be entered (i.e., a control rod must be withdrawn from its full-in position). Therefore, SR 3.9.2.2 has been modified by a Note that states the

2

1

3

C

2

(continued)

TSTF -205

Insert SR 3.9.2.2

A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL FUNCTIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical Specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions.

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS BASES: 3.9.2 - REFUEL POSITION ONE-ROD-OUT INTERLOCK

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. Editorial change made for enhanced clarity or to be consistent with the Writer's Guide or similar statements in other places in the Bases. 

3. Typographical/grammatical error corrected.

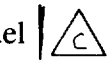
4. The brackets have been removed and the proper plant specific information/value has been provided.

NO SIGNIFICANT HAZARDS CONSIDERATION
ITS: 3.9.1 - REFUELING EQUIPMENT INTERLOCKS

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 provides alternative methods for ensuring operations are not performed with equipment that would potentially not be blocked from unacceptable operations (e.g., loading fuel into a cell with a control rod withdrawn or withdrawing a control rod while fuel is being moved in the reactor pressure vessel). The methods that the refueling interlocks use to prevent these occurrences are to block control rod withdrawal when fuel is being moved and to block movement of the refueling platform and hoist when a control rod is withdrawn. The proposed Required Actions will ensure both these occurrences are prevented. ITS 3.9.1 Required Action A.2.1 will ensure a control rod block is inserted. This will prevent a control rod from being withdrawn when fuel is being moved in the reactor pressure vessel. ITS 3.9.1 Required Action A.2.2 will ensure that all control rods are fully inserted. This will prevent loading fuel into a core cell with the control rod withdrawn. Thus, the proposed Required Actions provide equivalent methods for precluding the assumed occurrences. 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 create the possibility of a new or different kind of accident from any accident previously evaluated because the proposed change does not introduce a new mode of plant operation (since the new actions provide an equivalent level of protection) and does not require physical modification to the plant.

3. Does this change involve a significant reduction in a margin of safety?

   The proposed change provides alternative methods for ensuring operations are not performed with equipment that would potentially not be blocked from unacceptable operations (e.g., loading fuel into a cell with a control rod withdrawn or withdrawing a control rod while fuel is being moved in the reactor pressure vessel). The proposed Required Actions will ensure both these occurrences are prevented. ITS 3.9.1 Required Action A.2.1 will ensure a control rod block is inserted. This will prevent a control rod from being withdrawn when fuel is being moved in the reactor pressure vessel. ITS 3.9.1 Required Action A.2.2 will ensure that all control rods are fully 

L.1 CHANGE

3. (continued)

inserted. This will prevent loading fuel into a core cell with the control rod withdrawn. Thus, the proposed Required Actions provide equivalent methods for precluding the assumed occurrences. Therefore, the proposed change does not involve a significant reduction in a margin of safety. 

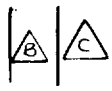
DISCUSSION OF CHANGES
ITS: 3.10.5 - MULTIPLE CONTROL ROD WITHDRAWAL — REFUELING

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 Technical Specification (ISTS)).

A.2 CTS 3.9.10.2 and 4.9.10.2.1 contain statements that require compliance with the Specification "until all control rods and control rod drive mechanisms are reinstalled and all control rods are inserted in the core." This statement in CTS 3/4.9.10.2 is fundamentally true for all Specifications and does not need to be stated in each individual Specification. Requirements apply until conditions under which they are required to apply no longer exist. Therefore, deleting these statements is only an editorial preference.

A.3 The current MODE 5 requirements for SRM OPERABILITY in CTS 3.9.2 and Surveillance testing in CTS 4.9.2 are adequate without explicit reference to them in CTS 3/4.9.10.2.b. ITS 3.10.5 does not modify the normal SRM requirements in MODE 5, and therefore, CTS 3.9.2 (ITS 3.3.1.2) must be met during this Special Operation (ITS 3.10.5). The CTS 3.9.10.2.b and 4.9.10.2.1.b references are redundant to the current and proposed requirements, and therefore, has been deleted. 

A.4 The current MODE 5 requirements for SHUTDOWN MARGIN (SDM) in CTS 3.1.1 and Surveillance testing in CTS 4.1.1 are adequate without explicit reference to them in CTS 3/4.9.10.2.c. ITS 3.10.5 does not modify the normal SDM requirements in MODE 5, and therefore, CTS 3.1.1 (ITS 3.1.1) must be met during this Special Operation (ITS 3.10.5). The CTS 3.9.10.2.c and 4.9.10.2.1.c references are redundant to the current and proposed requirements, and therefore, has been deleted. 

A.5 The MODE 5 Applicability addition in ITS 3.10.5 ("with LCO 3.9.4 or LCO 3.9.5 not met") is derived from the intent of CTS 3.9.10.2, which says "Any number of control rods and/or control rod drive mechanisms may be removed from the core and/or reactor pressure vessel..." During the performance of these activities, ITS 3.9.4 (which requires each control rod full-in position indication channel for each control rod to be OPERABLE), and ITS 3.9.5 (which requires all withdrawn control rods to be OPERABLE) are not met. Therefore, this change is strictly administrative and does not modify the requirements.

A.1

SPECIAL TEST EXCEPTIONS

3/4.10.3 SHUTDOWN MARGIN DEMONSTRATIONS

LIMITING CONDITION FOR OPERATION

LCO 3.10.7

A.2

3.10.3 The provisions of Specification 3.9.1, Specification 3.9.3 and Table 1.2 may be suspended to permit the reactor mode switch to be in the Startup position and to allow more than one control rod to be withdrawn for shutdown margin demonstration, provided that at least the following requirements are satisfied.

A.3

1.6

a. The source range monitors are OPERABLE per Specification 3.9.2.

LCO 3.10.7.b b. The rod worth minimizer is OPERABLE per Specification 3.1.4.1 and is programmed for the shutdown margin demonstration, or conformance with the shutdown margin demonstration procedure is verified by a second licensed operator or other technically qualified member of the unit technical staff.

LCO 3.10.7.d c. The "rod-out-notch-override" control shall not be used during out-of-sequence movement of the control rods.

A.4

add proposed LCO 3.10.7.a and d LCO 3.10.7.c

LCO 3.7.10.e d. No other CORE ALTERATIONS are in progress.

add proposed LCO 3.10.7.f

M.1

APPLICABILITY: OPERATIONAL CONDITION 5, during shutdown margin demonstrations with the reactor mode switch in the startup/hot standby position

A.5

ACTION:

ACTION B With the requirements of the above specification not satisfied, immediately place the reactor mode switch in the Shutdown or Refuel position.

add proposed ACTION A

A.4

SURVEILLANCE REQUIREMENTS

L.1

4.10.3 Within 30 minutes prior to and at least once per 12 hours during the performance of a shutdown margin demonstration, verify that;

a. The source range monitors are OPERABLE per Specification 3.9.2,

A.3

SR 3.10.7.2 SR 3.10.7.3 b. The rod worth minimizer is OPERABLE with the required program per Specification 3.1.4.1 or a second licensed operator or other technically qualified member of the unit technical staff is present and verifies compliance with the shutdown demonstration procedures, and

A.6

add proposed SR 3.10.7.2 and SR 3.10.7.3 Notes

SR 3.10.7.4 c. No other CORE ALTERATIONS are in progress.

add proposed SR 3.10.7.1 and SR 3.10.7.5

A.4

add proposed SR 3.10.7.6

M.1

ITS 3.10.7

A.1

SPECIAL TEST EXCEPTIONS

3/4.10.3 SHUTDOWN MARGIN DEMONSTRATIONS

LIMITING CONDITION FOR OPERATION

A.2

LCO 3.10.7

3.10.3 The provisions of Specification 3.9.1, Specification 3.9.3 and Table 1.2 may be suspended to permit the reactor mode switch to be in the Startup position and to allow more than one control rod to be withdrawn for shutdown margin demonstration, provided that at least the following requirements are satisfied.

A.3

a. The source range monitors are OPERABLE per Specification 3.9.2.

LA

LCO 3.10.7.b b. The rod worth minimizer is OPERABLE per Specification 3.1.4.1 and is programmed for the shutdown margin demonstration, or conformance with the shutdown margin demonstration procedure is verified by a second licensed operator or other technically qualified member of the unit technical staff.

LCO 3.10.7.d c. The "rod-out-notch-override" control shall not be used during out-of-sequence movement of the control rods.

A.4

add proposed LCO 3.10.7.a and LCO 3.10.7.c

LCO 3.10.7.e d. No other CORE ALTERATIONS are in progress.

M.1

add proposed LCO 3.10.7.f

APPLICABILITY: OPERATIONAL CONDITION 5, during shutdown margin demonstrations

with the reactor mode switch in the Startup/hot standby Position

A.5

ACTION:

ACTION B With the requirements of the above specification not satisfied, immediately place the reactor mode switch in the Shutdown or Refuel position.

add proposed ACTION A

A.4

SURVEILLANCE REQUIREMENTS

L.1

4.10.3 Within 30 minutes prior to and at least once per 12 hours during the performance of a shutdown margin demonstration, verify that;

A.3

a. The source range monitors are OPERABLE per Specification 3.9.2,

SR 3.10.7.2
SR 3.10.7.3

b. The rod worth minimizer is OPERABLE with the required program per Specification 3.1.4.1 or a second licensed operator or other technically qualified member of the unit technical staff is present and verifies compliance with the shutdown demonstration procedures, and

A.6

add proposed SR 3.10.7.2 and SR 3.10.7.3 Notes

SR 3.10.7.4 c. No other CORE ALTERATIONS are in progress.

LA

add proposed SR 3.10.7.1 and SR 3.10.7.5

A.4

add proposed SR 3.10.7.6

M.1

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

5.1.1 The station manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

5.1.2 A Senior Reactor Operator (SRO) shall be responsible for the control room command function while either unit is in MODE 1, 2, or 3. While both units are in MODE 4 or 5 or defueled, an individual with an active SRO license or Reactor Operator license shall be designated to assume the control room command function. 1/C

5.2 Organization

5.2.2 Unit Staff (continued)

non-licensed operators shall be assigned to each unit. |C

b. Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and Specifications 5.2.2.a and 5.2.2.g for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements. |C

c. A radiation protection technician shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position. |C

d. The amount of overtime worked by unit staff members performing safety related functions shall be limited and controlled in accordance with the NRC Policy Statement on working hours (Generic Letter 82-12). |C

e. The operations manager or shift operations supervisor shall hold an SRO license. |C

f. The Shift Technical Advisor (STA) shall provide advisory technical support to the shift manager in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. In addition, the STA shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift. |C

5.5 Programs and Manuals

5.5.6 Inservice Inspection Program for Post Tensioning Tendons

This program provides controls for monitoring any tendon degradation in pre-stressed concrete containments, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. The program shall include baseline measurements prior to initial operations. The Tendon Surveillance Program, inspection frequencies, and acceptance criteria shall be in accordance with Regulatory Guide 1.35, Revision 3, 1989, except that the Unit 1 and Unit 2 primary containments shall be treated as twin containments even though the initial structural integrity tests were not within 2 years of each other.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Tendon Surveillance Program inspection frequencies.

5.5.7 Inservice Testing Program

This program provides controls for inservice testing of ASME Code Class 1, 2, and 3 pumps and valves.

a. Testing Frequencies specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda are as follows:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice testing activities	Required Frequencies for performing inservice testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days
Biennially or every 2 years	At least once per 731 days
Every 48 months	At least once per 1461 days

(continued)

5.5 Programs and Manuals

5.5.7 Inservice Testing Program (continued)

b. The provisions of SR 3.0.2 are applicable to the above required Frequencies for performing inservice testing activities;

c. The provisions of SR 3.0.3 are applicable to inservice testing activities; and

d. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any TS.

5.5.8 Ventilation Filter Testing Program (VFTP)

The VFTP shall establish the required testing of Engineered Safety Feature (ESF) filter ventilation systems. Tests described in Specification 5.5.8.a and 5.5.8.b shall be performed once per 24 months; after each complete or partial replacement of the HEPA filter bank or charcoal adsorber bank; after any structural maintenance on the HEPA filter bank or charcoal adsorber bank housing; and, following painting, fire, or chemical release in any ventilation zone communicating with the subsystem while it is in operation that could adversely affect the filter bank or charcoal adsorber capability. |C| |C|

Tests described in Specification 5.5.8.c shall be performed once per 24 months; after 720 hours of system operation; after any structural maintenance on the charcoal adsorber bank housing; and, following painting, fire, or chemical release in any ventilation zone communicating with the subsystem while it is in operation that could adversely affect the charcoal adsorber capability. |C| |C| |C|

Tests described in Specification 5.5.8.d and 5.5.8.e shall be performed once per 24 months.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test frequencies.

a. Demonstrate for each of the ESF systems that an inplace test of the high efficiency particulate air (HEPA) filters shows a penetration and system bypass < 0.05% when tested in accordance with ANSI/ASME N510-1989 at the system flowrate specified below:

(continued)

5.5 Programs and Manuals

5.5.8 Ventilation Filter Testing Program (VFTP) (continued)

e. Demonstrate that the heaters for each of the ESF systems dissipate the value specified below, corrected for voltage variations at the 480 V bus, when tested in accordance with ANSI/ASME N510-1989:

ESF Ventilation System	Wattage (kW)
SGT System	$\geq$ 21 and $\leq$ 25
CRAF System EMUs	$\geq$ 18 and $\leq$ 22

5.5.9 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the Condenser Offgas Treatment System and the quantity of radioactivity contained in any outside temporary tanks.

The program shall include:

a. The limits for concentrations of hydrogen in the Condenser Offgas Treatment System and a surveillance program to ensure the limits are maintained. Such limits shall be appropriate to the system's design criteria (i.e., whether or not the system is designed to withstand a hydrogen explosion); and

b. A surveillance program to ensure that the quantity of radioactivity contained in all outside temporary tanks that are not surrounded by liners, dikes, or walls, capable of holding the tanks' contents and that do not have tank overflows and surrounding area drains connected to the Liquid Waste Management Systems is less than or equal to the amount that would result in concentrations less than the limits specified in the ODCM, at the nearest potable water supply and the nearest surface water supply in an unrestricted area, in the event of an uncontrolled release of the tanks' contents. |C|

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Explosive Gas and Storage Tank Radioactivity Monitoring Program Surveillance Frequencies.

(continued)

5.5 Programs and Manuals

5.5.10 Diesel Fuel Oil Testing Program

A diesel fuel oil testing program shall establish required testing of both new fuel oil and stored fuel oil. The program shall include sampling and testing requirements, and acceptance criteria, all in accordance with applicable ASTM Standards. The purpose of the program is to establish the following:

a. Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:

1. An API gravity or an absolute specific gravity within limits, 

2. A flash point and kinematic viscosity within limits, 

3. A clear and bright appearance with proper color or water and sediment within limits; 

b. Within 31 days following addition of the new fuel oil to storage tanks, verify that the properties of the new fuel oil, other than those addressed in a., above, are within limits; and

c. Total particulate concentration of the fuel oil in the storage tanks is $\leq$ 10 mg/l when tested every 31 days in accordance with the applicable ASTM Standard.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Diesel Fuel Oil Testing Program test frequencies.

5.5.11 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases of these Technical Specifications.

a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.

b. Licensees may make changes to Bases without prior NRC approval provided the changes do not require either of the following: 

1. A change in the TS incorporated in the license; or

(continued)

5.5 Programs and Manuals

5.5.11 Technical Specifications (TS) Bases Control Program (continued)

2. A change to the UFSAR or Bases that requires NRC approval pursuant to 10 CFR 50.59. (c)

c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the UFSAR.

d. Proposed changes that meet the criterion of Specification 5.5.11.b.1 or 5.5.11.b.2 above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).

5.5.12 Safety Function Determination Program (SFDP)

This program ensures loss of safety function is detected and appropriate actions taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other appropriate limitations and remedial or compensatory actions may be identified to be taken as a result of the support system inoperability and corresponding exception to entering supported system Condition and Required Actions. This program implements the requirements of LCO 3.0.6.

a. The SFDP shall contain the following:

1. Provisions for cross division checks to ensure a loss of the capability to perform the safety function assumed in the accident analysis does not go undetected;

2. Provisions for ensuring the plant is maintained in a safe condition if a loss of function condition exists;

3. Provisions to ensure that an inoperable supported system's Completion Time is not inappropriately extended as a result of multiple support system inoperabilities; and

4. Other appropriate limitations and remedial or compensatory actions.

(continued)

5.5 Programs and Manuals

5.5.12 Safety Function Determination Program (SFDP) (continued)

b. A loss of safety function exists when, assuming no concurrent single failure, and assuming no concurrent loss of offsite power or loss of onsite diesel generator(s), a safety function assumed in the accident analysis cannot be performed. For the purpose of this program, a loss of safety function may exist when a support system is inoperable, and:

1. A required system redundant to system(s) supported by the inoperable support system is also inoperable; or

2. A required system redundant to system(s) in turn supported by the inoperable supported system is also inoperable; or

3. A required system redundant to support system(s) for the supported systems described in b.1 and b.2 above is also inoperable.

c. The SFDP identifies where a loss of safety function exists. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered. When a loss of safety function is caused by the inoperability of a single Technical Specification support system, the appropriate Conditions and Required Actions to enter are those of the support system.

5.5.13 Primary Containment Leakage Rate Testing Program

a. This program shall establish the leakage rate testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix, J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Testing Program," dated September 1995.

b. The peak calculated primary containment internal pressure for the design basis loss of coolant accident, P_a, is 39.9 psig. (c)

(continued)

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

4. The Rod Block Monitor Upscale Instrumentation Setpoint for the Rod Block Monitor - Upscale Function Allowable Value for Specification 3.3.2.1.

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

1. ANFB Critical Power Correlation, ANF-1125(P)(A). (C)

2. Letter, Ashok C. Thadani (NRC) to R.A. Copeland (SPC), "Acceptance for Referencing of ULTRAFLOW™ Spacer on 9x9-IX/X BWR Fuel Design," July 28, 1993.

3. Advanced Nuclear Fuels Corporation Critical Power Methodology for Boiling Water Reactors/Advanced Nuclear Fuels Corporation Critical Power Methodology for Boiling Water Reactors: Methodology for Analysis of Assembly Channel Bowing Effects/NRC Correspondence, XN-NF-524(P)(A). (C)

4. COTRANSA 2: A Computer Program for Boiling Water Reactor Transient Analysis, ANF-913(P)(A). (C)

5. HUXY: A Generalized Multirod Heatup Code with 10 CFR 50, Appendix K Heatup Option, ANF-CC-33(P)(A). (C)

6. Advanced Nuclear Fuel Methodology for Boiling Water Reactors, XN-NF-80-19(P)(A). (C)

7. Generic Mechanical Design for Exxon Nuclear Jet Pump BWR Reload Fuel, XN-NF-85-67(P)(A). (C)

8. Advanced Nuclear Fuels Corporation Generic Mechanical Design for Advanced Nuclear Fuels Corporation 9x9-IX and 9x9-9X BWR Reload Fuel, ANF-89-014(P)(A). (C) (C)

9. Volume 1 - STAIF - A Computer Program for BWR Stability Analysis in the Frequency Domain, Volume 2 - STAIF - A Computer Program for BWR Stability Analysis in the Frequency Domain, Code Qualification Report, EMF-CC-074(P)(A). (C) (C)

(continued)

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

10. RODEX2 Fuel Rod Thermal-Mechanical Response Evaluation Model, XN-NF-81-58(P)(A). C

11. XCOBRA-T: A Computer Code for BWR Transient Thermal-Hydraulic Core Analysis, XN-NF-84-105(P)(A). C

12. Advanced Nuclear Fuels Corporation Methodology for Boiling Water Reactors EXEM BWR Evaluation Model, ANF-91-048(P)(A). C

13. Exxon Nuclear Plant Transient Methodology for Boiling Water Reactors, XN-NF-79-71(P)(A). C

14. Generic Mechanical Design Criteria for BWR Fuel Designs, ANF-89-98(P)(A). C

15. NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel." C

16. Commonwealth Edison Topical Report NFSR-0085, "Benchmark of BWR Nuclear Design Methods." C

17. Commonwealth Edison Topical Report NFSR-0091, "Benchmark of CASMO/MICROBURN BWR Nuclear Design Methods." C

18. ANFB Critical Power Correlation Application for Coresident Fuel, EMF-1125(P)(A). C

19. ANFB Critical Power Correlation Determination of ATRIUM-9B Additive Constant Uncertainties, ANF-1125(P)(A). C

The COLR will contain the complete identification for each of the TS referenced topical reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements). C

(continued)

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Post Accident Monitoring (PAM) Instrumentation Report

When a report is required by Condition B or F of LCO 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

A.1

ITS 5.2

1. At least one licensed Reactor Operator shall be in the control room when fuel is in the reactor. In addition, while the reactor is in OPERATIONAL CONDITION 1, 2 or 3, at least one licensed Senior Reactor Operator who has been designated by the Shift Manager to assume the control room direction responsibility shall be in the Control Room. LA.2 C

(See ITS 5.1)

5.2.2.c 2. A radiation protection technician* shall be on site when fuel is in the reactor. C

LA.2

3. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.

4. DELETED

LA.3

5. The Independent Safety Engineering Group (ISEG) shall function to examine unit operating characteristics, NRC issuances, industry advisories, Licensee Event Reports and other sources of plant design and operating experience information, including plants of similar design, which may indicate areas for improving unit safety. The ISEG shall be composed of at least three, dedicated, full-time engineers of multi-disciplines located on site and shall be augmented on a part-time basis by personnel from other parts of the Commonwealth Edison Company organization to provide expertise not represented in the group. The ISEG shall be responsible for maintaining surveillance of unit activities to provide independent verification# that these activities are performed correctly and that human errors are reduced as much as practical. The ISEG shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities or other means of improving unit safety to the Manager of Quality and Safety Assessment and the Plant Manager.

5.2.2.f 6. The Shift Technical Advisor shall provide advisory technical support to the shift manager in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. C

LA.1

5.2.2.c * The radiation protection technician position may be less than the minimum requirement for a period of time not to exceed two hours in order to accommodate unexpected absence provided immediate action is taken to fill the required position. C

Not responsible for sign-off feature.

LA.3

5.2.2.d 7. The amount of overtime worked by unit staff members performing safety related functions shall be limited and controlled in accordance with the NRC Policy Statement on working hours (Generic Letter 82-12). | A.c

5.2.2.e 8. The Operations Manager or Shift Operations Supervisor shall hold a Senior Reactor Operator License. } LA.1 | A.c

D. Qualifications of the station management and operating staff shall meet minimum acceptable levels as described in ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel," dated March 8, 1971. The Health Physics Supervisor shall meet the requirements of radiation protection manager of Regulatory Guide 1.8, September 1975. The ANSI N18.1-1971 qualification requirements for Radiation Protection Technician may also be met by either of the following alternatives:

1. Individuals who have completed the Radiation Protection Technician training program and have accrued 1 year of working experience in the specialty, or

2. Individuals who have completed the Radiation Protection Technician training program, but have not yet accrued 1 year of working experience in the specialty, who are supervised by on-shift health physics supervision who meet the requirements of ANSI N18.1-1971 Section 4.3.2, "Supervisor Not Requiring AEC Licenses," or Section 4.4.4, "Radiation Protection."

SEE ITS 5.3

E. Retraining and replacement training of Station personnel shall be in accordance with ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel", dated March 8, 1971 and Appendix "A" of 10 CFR Part 55, and shall include familiarization with relevant industry operational experience.

F. Retraining shall be conducted at intervals not exceeding 2 years.

See CTS 6.1.E/F

FIGURE 6.1-3
MINIMUM SHIFT CREW COMPOSITION[(a)(c)]

A.1 ITS 5.2

POSITION[(b)]	MINIMUM CREW NUMBER		
	EACH UNIT IN CONDITION 1, 2, OR 3	ONE UNIT IN CONDITION 1, 2, OR 3, AND ONE UNIT IN CONDITION 4 OR 5 OR DEFUELED	EACH UNIT IN CONDITION 4 OR 5 OR DEFUELED
SM	1	1	1
SRO	1	1	None
RO	3	3	2
AO	3	3	3
STA[(d)]	1	1	None

LA.4

5.2.2.a

5.2.2.a (a) This table reflects the total requirements for shift staffing of both units.

5.2.2.b With the exception of the Shift Manager, the shift crew composition may be one less than the minimum requirements of Figure 6.1-3 for not more than 2 hours to accommodate unexpected absence of on-duty shift crew members, provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Figure 6.1-3. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent.

A.3 C

(b) Table Notation:

LA.4

SM Shift Manager with a Senior Reactor Operator license for each unit whose reactor contains fuel.

SRO Individual with a Senior Reactor Operator license for each unit whose reactor contains fuel.

LA.2

During CORE ALTERATIONS on either unit a licensed SRO or licensed SRO limited to fuel handling, who has no other concurrent responsibilities, must be present to observe and directly supervise this operation.

LA.4

RO An Individual with a Reactor Operator license or a Senior Reactor Operator license for unit assigned. At least one RO shall be assigned to each unit whose reactor contains fuel.

LA.2 C

Individuals acting as relief operators shall hold a license for both units. Otherwise, for each unit, provide a relief operator who holds a license for the unit assigned.

LA.4

5.2.2.a AO At least one auxiliary operator shall be assigned to each unit whose reactor contains fuel.

M.1

STA Shift Technical Advisor

LA.4

SEE ITS 5.1 (c) While either unit is in CONDITION 1, 2, or 3, an individual with a valid SRO license shall be designated to assume the control room command function. With both Units in CONDITION 4 or 5 an individual with a valid SRO or RO license shall be designated to assume the control room command function.

5.2.2.f (d) The STA position shall be filled by an individual who meets the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

C

A.1

ITS 5.2

1. At least one licensed Reactor Operator shall be in the control room when fuel is in the reactor. In addition, while the reactor is in OPERATIONAL CONDITION 1, 2 or 3, at least one licensed Senior Reactor Operator who has been designated by the Shift Manager to assume the control room direction responsibility shall be in the Control Room. LA.2 C

<See ITS 5.1>

5.2.2.c

2. A radiation protection technician* shall be on site when fuel is in the reactor. C

3. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation. LA.2

4. DELETED

LA.3

5. The Independent Safety Engineering Group (ISEG) shall function to examine unit operating characteristics, NRC issuances, industry advisories, Licensee Event Reports and other sources of plant design and operating experience information, including plants of similar design, which may indicate areas for improving unit safety. The ISEG shall be composed of at least three, dedicated, full-time engineers of multi-disciplines located on site and shall be augmented on a part-time basis by personnel from other parts of the Commonwealth Edison Company organization to provide expertise not represented in the group. The ISEG shall be responsible for maintaining surveillance of unit activities to provide independent verification# that these activities are performed correctly and that human errors are reduced as much as practical. The ISEG shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities or other means of improving unit safety to the Manager of Quality and Safety Assessment and the Plant Manager.

5.2.2.f

6. The Shift Technical Advisor shall provide advisory technical support to the Shift Manager in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. LA.1 C

shift manager

5.2.2.c

* The radiation protection technician position may be less than the minimum requirement for a period of time not to exceed two hours in order to accommodate unexpected absence provided immediate action is taken to fill the required position. C

Not responsible for sign-off feature. LA.3

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5.2.2.d 7. The amount of overtime worked by unit staff members performing safety related functions shall be limited and controlled in accordance with the NRC Policy Statement on working hours (Generic Letter 82-12). A.1 C

5.2.2.e 8. The Operations Manager or Shift Operations Supervisor shall hold a Senior Reactor Operator License. LA.1 C

D. Qualifications of the station management and operating staff shall meet minimum acceptable levels as described in ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel," dated March 8, 1971. The Health Physics Supervisor shall meet the requirements of radiation protection manager of Regulatory Guide 1.8, September 1975. The ANSI N18.1-1971 qualification requirements for Radiation Protection Technician may also be met by either of the following alternatives:

1. Individuals who have completed the Radiation Protection Technician training program and have accrued 1 year of working experience in the specialty, or

2. Individuals who have completed the Radiation Protection Technician training program, but have not yet accrued 1 year of working experience in the specialty, who are supervised by on-shift health physics supervision who meet the requirements of ANSI N18.1-1971 Section 4.3.2, "Supervisor Not Requiring AEC Licenses," or Section 4.4.4, "Radiation Protection."

(SEE ITS 5.3)

E. Retraining and replacement training of Station personnel shall be in accordance with ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel", dated March 8, 1971 and Appendix "A" of 10 CFR Part 55, and shall include familiarization with relevant industry operational experience.

F. Retraining shall be conducted at intervals not exceeding 2 years.

(See CTS G.1.E/F)

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FIGURE 6.1-3
MINIMUM SHIFT CREW COMPOSITION[a)(c)]

A.1 ITS 5.2

POSITION[b]	MINIMUM CREW NUMBER		
	EACH UNIT IN CONDITION 1, 2, OR 3	ONE UNIT IN CONDITION 1, 2, OR 3, AND ONE UNIT IN CONDITION 4 OR 5 OR DEFUELED	EACH UNIT IN CONDITION 4 OR 5 OR DEFUELED
SM	1	1	1
SRO	1	1	None
RO	3	3	2
AO	3	3	3
STA[d]	1	1	None

LA.4

5.2.2.a

5.2.2.a (a) This table reflects the total requirements for shift staffing of both units.

5.2.2.b With the exception of the Shift Manager, the shift crew composition may be one less than the minimum requirements of Figure 6.1-3 for not more than 2 hours to accommodate unexpected absence of on-duty shift crew members, provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Figure 6.1-3. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent.

A.3 LA

(b) Table Notation:

LA.4

SM Shift Manager with a Senior Reactor Operator license for each unit whose reactor contains fuel.

SRO Individual with a Senior Reactor Operator license for each unit whose reactor contains fuel.

During CORE ALTERATIONS on either unit a licensed SRO or licensed SRO limited to fuel handling, who has no other concurrent responsibilities, must be present to observe and directly supervise this operation.

LA.2

RO An individual with a Reactor Operator license or a Senior Reactor Operator license for unit assigned. At least one RO shall be assigned to each unit whose reactor contains fuel. Individuals acting as relief operators shall hold a license for both units. Otherwise, for each unit, provide a relief operator who holds a license for the unit assigned.

LA.4 LA.2 LA

5.2.2.a AO At least one auxiliary operator shall be assigned to each unit whose reactor contains fuel.

M.1

STA Shift Technical Advisor.

LA.4

SEE JTS 5.1

(c) While either unit is in CONDITION 1, 2, or 3, an individual with a valid SRO license shall be designated to assume the control room command function. With both Units in CONDITION 4 or 5 an individual with a valid SRO or RO license shall be designated to assume the control room command function.

5.2.2.f (d) The STA position shall be filled by an individual who meets the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

LA

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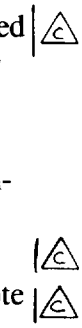
DISCUSSION OF CHANGES
ITS: 5.2 - ORGANIZATION

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 term "health physics" in CTS 6.1.A.4 has been changed to radiation protection. This terminology is equivalent. Thus, the change is administrative.

A.3 Footnote (a) of CTS Table 6.1-3 does not allow any shift crew position to be unmanned upon shift change because an oncoming shift crewman scheduled to come on duty is late or absent. ITS 5.2.2.b allows a period of time not to exceed two hours in order to accommodate unexpected absence of "on-duty" shift crew members or personnel. The wording "on-duty," implies that the absence refers to on-duty shift crew members or personnel and not the oncoming crew or personnel. If anyone in the oncoming crew or personnel is not present, the "on-duty" person may not leave. Therefore, the requirement of this footnote is covered in ITS 5.2.2.b. The minimum shift crew requirements continue to be maintained in ITS 5.2.2.b. Therefore, the deletion of this portion of the footnote is administrative. 

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 The wording in CTS Table 6.1-3 footnote (b) has been revised. Proposed ITS 5.2.2.a specifies non-licensed operator staffing requirements, and requires at least one required non-licensed operator be assigned to each unit at all times, in lieu of the CTS requirement that the non-licensed operator be assigned only when fuel is in the reactor vessel. This change does not reduce or eliminate non-licensed personnel required in the current licensing basis. This ensures both units have at least one non-licensed operator to perform required tasks. This change is consistent with the BWR ISTS, NUREG-1434, Rev. 1, and is considered more restrictive on plant operations.

DISCUSSION OF CHANGES
ITS: 5.2 - ORGANIZATION

TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 CTS 6.1.A.3 uses the title "Chief Nuclear Officer." In ITS 5.2.1.c this specific title is replaced with the generic term "a corporate officer." CTS 6.A.1.2 uses the title "Plant Manager." In ITS 5.2.1.b, this specific title is replaced with the generic title "station manager." CTS 6.1.C.6 uses the title "Shift Manager." In ITS 5.2.2.f, this specific title is replaced with the generic term "shift manager." CTS 6.1.C.8 uses the titles "Operations Manager" and "Shift Operations Supervisor." In ITS 5.2.2.e, these specific titles are replaced with the generic titles "operations manager" and "shift operations supervisor." The specific titles are proposed to be relocated to the Quality Assurance (QA) Manual. The allowance to relocate the specific titles out of the Technical Specifications is consistent with the NRC letter from C. Grimes to the Owners Groups Technical Specification Committee Chairmen, dated November 10, 1994. The various requirements of the individuals are still retained in the ITS. In addition, the ITS also requires the plant specific titles to be in the QA Manual. Therefore, the relocated specific titles are not required to be in the ITS to provide adequate protection of the public health and safety. Changes to the QA Manual are controlled by the provisions of 10 CFR 50.54.

LA.2 Details contained in CTS 6.1.C.3 and Figure 6.1-3, footnote (b) that require all Core Alterations to be supervised by either a licensed Senior Operator or Senior Reactor Operator Limited to Fuel Handling and the details in 6.1.C.1 and Figure 6.1.3, footnote (b) concerning the location of Operators and a Senior Operator are proposed to be relocated to the UFSAR. These current TS requirements are contained in 10 CFR 50.54 (m)(2)(iii) and (iv) and do not need to be repeated in the ITS to provide adequate protection of the public health and safety. Once in the UFSAR, these requirements will be under the change control provisions of 10 CFR 50.59. 10 CFR 50.54 (m)(2)(iii) and (iv) specify the minimum requirements for moving reactor fuel and the location requirements for Operators and a Senior Operator. Also, 10 CFR 50.54(m)(2)(iv) does not require a non-licensed member of the reactor analyst group (or any other type of engineer) to monitor the fuel movement. This is an additional administrative requirement that is not needed to be in the ITS for protection of the public health and safety. Once in the UFSAR, this requirement will also be under the change control provisions of 10 CFR 50.59.

LA.3 The Independent Safety Engineering Group (ISEG) requirements in CTS 6.1.C.5 are proposed to be relocated to the Quality Assurance (QA) Manual since they can be adequately addressed elsewhere and there is adequate regulatory authority to do so. The ISEG performs independent safety reviews. Since the ISEG provides after-the-fact recommendations to improve safety, this organization is

TECHNICAL CHANGES - LESS RESTRICTIVE

LA.3 (cont'd) not necessary to ensure safe operation of the facility. Therefore, inclusion of the requirements for the ISEG in ITS is not necessary to provide adequate protection of the public health and safety. Changes to the QA Manual will be controlled by the provisions of 10 CFR 50.54.

LA.4 Details of the minimum shift crew requirements located in CTS Table 6.1-3, including portions of footnotes (a) and (b), are proposed to be relocated to the UFSAR. The minimum shift crew requirements for licensed operators and senior operators are also contained in 10 CFR 50.54 (k), (l), and (m) and do not need to be repeated in the ITS. The minimum shift crew requirements for non-licensed plant equipment operators are transferred from CTS Table 6.1-3 to ITS 5.2.2.a. In addition, ITS 5.1.2 contains requirements for the control room command function and ITS 5.2.2.f contains STA requirements. The relocation of the details of the minimum shift crew requirements to the UFSAR is acceptable considering the controls provided by regulations, the remaining requirements in the ITS, and the UFSAR change control process (10 CFR 50.59). Therefore, the relocated requirements are not required to be in the ITS to provide adequate protection of the public health and safety. 

"Specific"

None

RELOCATED SPECIFICATIONS

None

ITS 5.5

A.1

(See ITS 5.4) PLANT OPERATING PROCEDURES AND PROGRAMS (Continued)

5.5.13 7. Primary Containment Leakage Rate Testing Program

5.5.13.a A program shall be established to implement the leakage rate testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Testing Program," dated September 1995.

5.5.13.b The peak calculated primary containment internal pressure for the design basis loss of coolant accident, P_a, is 39.9 psig. 1C

5.5.13.c The maximum allowable primary containment leakage rate, L_a, at P_a, is 0.635% of primary containment air weight per day.

5.5.13.d Leakage rate acceptance criteria are:

5.5.13.d.1 a. Primary containment overall leakage rate acceptance criterion is $\leq 1.0\ L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the combined Type B and Type C tests, and $\leq 0.75\ L_a$ for Type A tests.

5.5.13.d.2 b. Air lock testing acceptance criteria are:

5.5.13.d.2.a) 1) Overall air lock leakage rate is $\leq 0.05\ L_a$ when tested at $\geq P_a$.

5.5.13.d.2.b) 2) For each door, the seal leakage rate is $\leq$ 5 scf per hour when the gap between the door seals is pressurized to $\geq$ 10 psig.

The provisions of specification 4.0.2 do not apply to the test frequencies specified in the Primary Containment Leakage Rate Testing Program. A.3

5.5.13.e The provisions of specification 4.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

5.5.8 8. Ventilation Filter Testing Program (VFTP)

A program shall be established to implement the following required testing of Engineered Safety Feature (ESF) filter ventilation systems at the frequencies specified in Regulatory Guide 1.52, Revision 2, dated March 1978, and in accordance with ASME N510-1989. A.13 A.4 LD.2

The provisions of Specifications 4.0.2 and 4.0.3 are applicable to the VFTP test frequencies. LD.3

5.5.8.a a. Demonstrate for each of the ESF systems that an inplace test of the high efficiency particulate air (HEPA) filters shows a penetration and system bypass <0.05% when tested in accordance with ASME N510-1989, at the system flowrate specified below:

ESF Ventilation System	Flowrate (cfm)
SBGT System	$\geq$ 3600 and $\leq$ 4400
CREF System	$\geq$ 3600 and $\leq$ 4400

A.12 CRAF EMGs

See ITS 5.4 PLANT OPERATING PROCEDURES AND PROGRAMS (Continued)

5.5.6 the Initial Structural Integrity Tests were not within 2 years of each other.

The Onsite Review and Investigative Function shall be responsible for reviewing and approving changes to the Inservice Inspection Program for Post Tensioning Tendons. L4.3

The provisions of 4.0.2 and 4.0.3 are applicable to the Tendon Surveillance Program inspection frequencies.

5.5.13 7. Primary Containment Leakage Rate Testing Program

5.5.13.a A program shall be established to implement the leakage rate testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Testing Program," dated September 1995.

5.5.13.b The peak calculated primary containment internal pressure for the design basis loss of coolant accident, P_a, is 39.9 psig. 1C

5.5.13.c The maximum allowable primary containment leakage rate, L_a, at P_a, is 0.635% of primary containment air weight per day.

5.5.13.d Leakage rate acceptance criteria are:

5.5.13.d.1 a. Primary containment overall leakage rate acceptance criterion is $\leq 1.0\ L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the combined Type B and Type C tests, and $\leq 0.75\ L_a$ for Type A tests.

5.5.13.d.2 b. Air lock testing acceptance criteria are:

5.5.13.d.2.a 1) Overall air lock leakage rate is $\leq 0.05\ L_a$ when tested at $\geq P_a$.

5.5.13.d.2.b 2) For each door, the seal leakage rate is $\leq$ 5 scf per hour when the gap between the door seals is pressurized to $\geq$ 10 psig.

The provisions of specification 4.0.2 do not apply to the test frequencies specified in the Primary Containment Leakage Rate Testing Program. A.3

5.5.13.e The provisions of specification 4.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

5.5.8 8. Ventilation Filter Testing Program (VFTP)

A program shall be established to implement the following required testing of Engineered Safety Feature (ESF) filter ventilation systems at the frequencies specified in Regulatory Guide 1.52, Revision 2, dated March 1978 and in accordance with ASME N510-1989. A.1.3 A.4 LD.2 LD.3

The provisions of Specifications 4.0.2 and 4.0.3 are applicable to the VFTP test frequencies.

ADMINISTRATIVE (continued)

A.11 CTS 6.8.2.a.2 contains a reference to 10 CFR 20.106. In proposed TS 5.5.1.c.1(b), this reference has been changed to 10 CFR 20.1302. This change reflects the recent revision to 10 CFR 20, and as such, is considered administrative.

A.12 The Ventilation Filter Testing Program (VFTP) requirements of CTS 6.2.F.8 includes testing requirements for the plant's Control Room outside air intake filters. CTS designates these filter units as the CREF System. ITS 5.5.8 contains the VFTP requirements but designates these filters as emergency makeup filter units (EMUs). Furthermore, EMUs, Control Room Recirculation Filters (CRRFs), and Auxiliary Electric Equipment Room Recirculation Filters (AEERRFs) are considered subsystems of the Control Room Area Filtration (CRAF) System. This change includes no new requirements, but only provides consistency with other ITS Specifications and plant specific nomenclature. Therefore, this change is administrative.

A.13 CTS 6.2.F.8 states that the testing frequencies for the Ventilation Filter Testing Program shall be in accordance with Regulatory Guide 1.52, Rev. 2. As a result, certain SGT and CRAF System filter testing is required following painting, fire, or chemical release in any ventilation zone communicating with the subsystems. ITS 5.5.7 only requires testing if the painting, fire, or chemical release is significant. Current LaSalle 1 and 2 practice is that not all painting, fire, or chemical release results in the need to perform certain ventilation filter tests. Only painting, fire, or chemical release that could affect the ventilation filter subsystems would require performance of the tests. The words "that could adversely affect the filter bank or charcoal adsorber capability" were added for clarity and consistency with current practice to avoid a misinterpretation that any painting, fire, or chemical release (such as using a small can of paint to do touch-up work in the reactor building) would result in the need to perform the tests. This clarification is administrative, and is consistent with the most recently approved BWR/5 ITS Amendment, NMP2. In addition, the NRC, in a letter to Entergy Operations dated September 11, 1997, supported the clarification that not all painting, fires, or chemical releases required the ventilation filter subsystems to be tested.

Monthly Operating Report (Continued)

(See CTS 6.9) A report of any major changes to the radioactive waste treatment systems shall be submitted with the Monthly Operating Report for the period in which the evaluation was reviewed and accepted by Onsite Review and Investigative Function.

5.6.5 6. Core Operating Limits Report

5.6.5.a a. Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle for the following:

5.6.5.a.1 (1) The Average Planar Linear Heat Generation Rate (APLHGR) for Technical Specification 3.2.1.

5.6.5.a.2 (2) The minimum Critical Power Ratio (MCPR) scram time, dependent MCPR limits, and power and flow dependent MCPR limits for Technical Specification 3.2.3. Effects of analyzed equipment out of service are included. LA.2

5.6.5.a.3 (3) The Linear Heat Generation Rate (LHGR) for Technical Specification 3.2.4.

5.6.5.a.4 (4) The Rod Block Monitor Upscale Instrumentation Setpoints for Technical Specification Table 3.3.6-2.

5.6.5.b b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC. For LaSalle County Station Unit 1, the topical reports are:

5.6.5.b.1 (1) ANFB Critical Power Correlation, ANF-1125(P)(A) and Supplements 1 and 2, Advanced Nuclear Fuels Corporation, April 1990. LA.3 C

5.6.5.b.2 (2) Letter, Ashok C. Thadani (NRC) to R.A. Copeland (SPC), "Acceptance for Referencing of ULTRAFLOW™ Spacer on 9x9-IX/X BWR Fuel Design," July 28, 1993.

5.6.5.b.3 (3) Advanced Nuclear Fuels Corporation Critical Power Methodology for Boiling Water Reactors/Advanced Nuclear Fuels Corporation Critical Power Methodology for Boiling Water Reactors: Methodology for Analysis of Assembly Channel Bowing Effects/NRC Correspondence, XN-NF-524(P)(A) Revision 2, and Supplement 1 Revision 2, Supplement 2, Advanced Nuclear Fuels Corporation, November 1990. LA.3 C

5.6.5.b.4 (4) COTRANSA 2: A Computer Program for Boiling Water Reactor Transient Analysis, ANF-913(P)(A), Volume 1, Revision 1 and Volume 1 Supplements 2, 3, and 4, Advanced Nuclear Fuels Corporation, August 1990. LA.3 C

Core Operating Limits Report (Continued)

5.6.5.b.5 (5) HUXY: A Generalized Multirod Heatup Code with 10 CFR 50, Appendix K Heatup Option, ANF-CC-33(P)(A), Supplement 1 Revision 1; and Supplement 2, Advanced Nuclear Fuels Corporation, August 1986 and January 1991, respectively.

LA.3

5.6.5.b.6 (6) Advanced Nuclear Fuel Methodology for Boiling Water Reactors, XN-NF-80-19(P)(A), Volume 1, Supplement 3, Supplement 3 Appendix F, and Supplement 4, Advanced Nuclear Fuels Corporation, November 1990.

5.6.5.b.6 (7) Exxon Nuclear Methodology for Boiling Water Reactors: Application of the ENC Methodology to BWR Reloads, XN-NF-80-19(P)(A), Volume 4, Revision 1, Exxon Nuclear Company, June 1986.

5.6.5.b.6 (8) Exxon Nuclear Methodology for Boiling Water Reactors THERMEX: Thermal Limits Methodology Summary Description, XN-NF-80-19(P)(A), Volume 3, Revision 2, Exxon Nuclear Company, January 1987.

5.6.5.b.7 (9) Generic Mechanical Design for Exxon Nuclear Jet Pump BWR Reload Fuel, XN-NF-85-67(P)(A) Revision 1, Exxon Nuclear Company, September 1986.

5.6.5.b.8 (10) Advanced Nuclear Fuels Corporation Generic Mechanical Design for Advanced Nuclear Fuels Corporation 9x9-IX and 9x9-9X BWR Reload Fuel, ANF-89-014(P)(A), Revision 1 and Supplements 1 and 2, October 1991.

5.6.5.b.9 (11) Volume 1 - STAIF - A Computer Program for BWR Stability Analysis in the Frequency Domain, Volume 2 - STAIF - A Computer Program for BWR Stability Analysis in the Frequency Domain, Code Qualification Report, EMF-CC-074(P)(A), Siemens Power Corporation, July 1994.

5.6.5.b.10 (12) RODEX2 Fuel Rod Thermal-Mechanical Response Evaluation Model, XN-NF-81-58(P)(A), Revision 2 Supplements 1 and 2, Exxon Nuclear Company, March 1984.

5.6.5.b.11 (13) XCOBRA-T: A Computer Code for BWR Transient Thermal-Hydraulic Core Analysis, XN-NF-84-105(P)(A), Volume 1 and Volume 1 Supplements 1 and 2; Volume 1 Supplement 4, Advanced Nuclear Fuels Corporation, February 1987 and June 1988, respectively.

5.6.5.b.12 (14) Advanced Nuclear Fuels Corporation Methodology for Boiling Water Reactors EXEM BWR Evaluation Model, ANF-91-048(P)(A), Advanced Nuclear Fuels Corporation, January 1993.

5.6.5.b.6 (15) Exxon Nuclear Methodology for Boiling Water Reactors - Neutronic Methods for Design and Analysis, XN-NF-80-19(P)(A) Volume 1 and Supplements 1 and 2, Exxon Nuclear Company, Richland, WA 99352, March 1983.

Core Operating Limits Report (Continued)

LA.3

5.6.5.b.13 (16) Exxon Nuclear Plant Transient Methodology for Boiling Water Reactors, XN-NF-79-71(P)(A), Revision 2 Supplements 1, 2, and 3, Exxon Nuclear Company, March 1986. C

5.6.5.b.14 (17) Generic Mechanical Design Criteria for BWR Fuel Designs, ANF-89-98(P)(A), Revision 1 and Revision 1 Supplement 1, Advanced Nuclear Fuels Corporation, May 1995. C

5.6.5.b.15 (18) NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel," (latest approved revision). C

5.6.5.b.16 (19) Commonwealth Edison Topical Report NFSR-0085, "Benchmark of BWR Nuclear Design Methods," (latest approved revision). C

5.6.5.b.16 (20) Commonwealth Edison Topical Report NFSR-0085, Supplement 1, "Benchmark of BWR Nuclear Design Methods - Quad Cities Gamma Scan Comparisons," (latest approved revision). C

5.6.5.b.16 (21) Commonwealth Edison Topical Report NFSR-0085, Supplement 2, "Benchmark of BWR Nuclear Design Methods - Neutronic Licensing Analyses," (latest approved revision). C

5.6.5.b.17 (22) Commonwealth Edison Topical Report NFSR-0091, "Benchmark of CASMO/MICROBURN BWR Nuclear Design Methods," Revision 0, Supplements 1 and 2, December 1991, March 1992, and May 1992, respectively; SER letter dated March 22, 1993. C

5.6.5.b.12 (23) BWR Jet Pump Model Revision for RELAX, ANF-91-048(P)(A), Supplement 1 and Supplement 2, Siemens Power Corporation, October 1997. C

5.6.5.b.18 (24) ANFB Critical Power Correlation Application for Coresident Fuel, EMF-1125(P)(A), Supplement 1, Appendix C, Siemens Power Corporation, August 1997. C

5.6.5.b.19 (25) ANFB Critical Power Correlation Determination of ATRIUM-9B Additive Constant Uncertainties, ANF-1125(P)(A), Supplement 1, Appendix E, Siemens Power Corporation, September 1998. C

Core Operating Limits Report (Continued)

5.6.5.a.1 (1) The Average Planar Linear Heat Generation Rate (APLHGR) for Technical Specification 3.2.1.

5.6.5.a.2 (2) The minimum Critical Power Ratio (MCPR) scram time dependent MCPR limits, and power and flow dependent MCPR limits for Technical Specification 3.2.3. Effects of analyzed equipment out of service are included. LA.2

5.6.5.a.3 (3) The Linear Heat Generation Rate (LHGR) for Technical Specification 3.2.4.

5.6.5.a.4 (4) The Rod Block Monitor Upscale Instrumentation Setpoints for Technical Specification Table 3.3.6-2.

5.6.5.b b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC. For LaSalle County Station Unit 2, the topical reports are:

5.6.5.b.1 (1) ANFB Critical Power Correlation, ANF-1125(P)(A) and Supplements 1 and 2, Advanced Nuclear Fuels Corporation, April 1990. LA.3 C

5.6.5.b.2 (2) Letter, Ashok C. Thadani (NRC) to R.A. Copeland (SPC), "Acceptance for Referencing of ULTRAFLOW™ Spacer on 9x9-IX/X BWR Fuel Design," July 28, 1993.

5.6.5.b.3 (3) Advanced Nuclear Fuels Corporation Critical Power Methodology for Boiling Water Reactors/Advanced Nuclear Fuels Corporation Critical Power Methodology for Boiling Water Reactors: Methodology for Analysis of Assembly Channel Bowing Effects/NRC Correspondence, XN-NF-524(P)(A) Revision 2 and Supplement 1 Revision 2, Supplement 2, Advanced Nuclear Fuels Corporation November 1990. C

5.6.5.b.4 (4) COTRANSA 2: A Computer Program for Boiling Water Reactor Transient Analysis, ANF-913(P)(A), Volume 1, Revision 1 and Volume 1 Supplements 2, 3, and 4, Advanced Nuclear Fuels Corporation, August 1990. C

5.6.5.b.5 (5) HUXY: A Generalized Multirod Heatup Code with 10 CFR 50, Appendix K Heatup Option, ANF-CC-33(P)(A), Supplement 1 Revision 1; and Supplement 2, Advanced Nuclear Fuels Corporation, August 1986 and January 1991, respectively. C

5.6.5.b.6 (6) Advanced Nuclear Fuel Methodology for Boiling Water Reactors, XN-NF-80-19(P)(A), Volume 1, Supplement 3, Supplement 3 Appendix F, and Supplement 4, Advanced Nuclear Fuels Corporation, November 1990. C

5.6.5.b.6 (7) Exxon Nuclear Methodology for Boiling Water Reactors: Application of the ENC Methodology to BWR Reloads, XN-NF-80-19(P)(A), Volume 4, Revision 1, Exxon Nuclear Company, June 1986. C

5.6.5.b.6 (8) Exxon Nuclear Methodology for Boiling Water Reactors THERMEX: Thermal Limits Methodology Summary Description, XN-NF-80-19(P)(A), Volume 3, Revision 2, Exxon Nuclear Company, January 1987. C

Core Operating Limits Report (Continued)

5.6.5.b.7 (9) Generic Mechanical Design for Exxon Nuclear Jet Pump BWR Reload Fuel, XN-NF-85-67(P)(A) Revision 1, Exxon Nuclear Company, September 1986. LA.3 C

5.6.5.b.8 (10) Advanced Nuclear Fuels Corporation Generic Mechanical Design for Advanced Nuclear Fuels Corporation 9x9-IX and 9x9-9X BWR Reload Fuel, ANF-89-014(P)(A) Revision 1 and Supplements 1 and 2, October 1991. C

5.6.5.b.9 (11) Volume 1 - STAIF - A Computer Program for BWR Stability Analysis in the Frequency Domain, Volume 2 - STAIF - A Computer Program for BWR Stability Analysis in the Frequency Domain, Code Qualification Report, EMF-CC-074(P)(A), Siemens Power Corporation, July 1994. C

5.6.5.b.10 (12) RODEX2 Fuel Rod Thermal-Mechanical Response Evaluation Model, XN-NF-81-58(P)(A) Revision 2 Supplements 1 and 2, Exxon Nuclear Company, March 1984. C

5.6.5.b.11 (13) XCOBRA-T: A Computer Code for BWR Transient Thermal-Hydraulic Core Analysis, XN-NF-84-105(P)(A) Volume 1 and Volume 1 Supplements 1 and 2; Volume 1 Supplement 4, Advanced Nuclear Fuels Corporation, February 1987 and June 1988, respectively. C

5.6 5.6.12 (14) Advanced Nuclear Fuels Corporation Methodology for Boiling Water Reactors EXEM BWR Evaluation Model, ANF-91-048(P)(A) Advanced Nuclear Fuels Corporation, January 1993. C

5.6.5.b.6 (15) Exxon Nuclear Methodology for Boiling Water Reactors - Neutronic Methods for Design and Analysis, XN-NF-80-19(P)(A) Volume 1 and Supplements 1 and 2, Exxon Nuclear Company, Richland, WA 99352, March 1983. C

5.6.5.b.13 (16) Exxon Nuclear Plant Transient Methodology for Boiling Water Reactors, XN-NF-79-71(P)(A) Revision 2 Supplements 1, 2, and 3, Exxon Nuclear Company, March 1986. C

5.6.5.b.14 (17) Generic Mechanical Design Criteria for BWR Fuel Designs, ANF-89-98(P)(A) Revision 1 and Revision 1 Supplement 1, Advanced Nuclear Fuels Corporation, May 1995. C

5.6.5.b.15 (18) NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel," (latest approved revision). C

5.6.5.b.16 (19) Commonwealth Edison Topical Report NFSR-0085, "Benchmark of BWR Nuclear Design Methods," (latest approved revision). C

5.6.5.b.16 (20) Commonwealth Edison Topical Report NFSR-0085, Supplement 1, "Benchmark of BWR Nuclear Design Methods - Quad Cities Gamma Scan Comparisons," (latest approved revision). C

5.6.5.6.16 (21) Commonwealth Edison Topical Report NFSR-0085, Supplement 2, "Benchmark of BWR Nuclear Design Methods - Neutronic Licensing Analyses," (latest approved revision). C

Core Operating Limits Report (Continued)

5.6 5.6.17 (22) Commonwealth Edison Topical Report NFSR-0091, "Benchmark of CASMO/MICROBURN BWR Nuclear Design Methods," Revision 0, Supplements 1 and 2, December 1991, March 1992, and May 1992, respectively; SER letter dated March 22, 1993. LA.3 C

5.6.5.6.12 (23) BWR Jet Pump Model Revision for RELAX, ANF-91-048(P)(A), Supplement 1 and Supplement 2, Siemens Power Corporation, October 1997. C

5.6.5.6.18 (24) ANFB Critical Power Correlation Application for Coresident Fuel, EMF-1125(P)(A), Supplement 1, Appendix C, Siemens Power Corporation, August 1997. C

5.6.5.6.19 (25) ANFB Critical Power Correlation Determination of ATRIUM-9B Additive Constant Uncertainties, ANF-1125(P)(A), Supplement 1, Appendix E, Siemens Power Corporation, September 1998. C

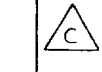
TECHNICAL CHANGES - LESS RESTRICTIVE

"Generic"

LA.1 The details associated with CTS 6.6.A.1, "Startup Report," are proposed to be relocated to the Technical Requirements Manual (TRM). The Startup Report is a summary of plant startup and power escalation testing following receipt of the Operating License, increase in licensed power level, installation of nuclear fuel with a different design or manufacturer than the current fuel, and modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the unit. The report provides the NRC a mechanism to review the appropriateness of licensee activities after-the-fact, but provides no regulatory authority once the report is submitted (i.e., no requirement for NRC approval). The Quality Assurance requirements of 10 CFR 50, Appendix B, and the Startup Test Program provisions contained in the UFSAR provide assurance the listed activities will be adequately performed and that appropriate corrective actions, if required, are taken. Given that the report was required to be provided to the Commission no sooner than 90 days following completion of the respective milestone, report completion and submittal was clearly not necessary to assure operation of the facility in a safe manner for the interval between completion of the startup testing and submittal of the report. Additionally, given there is no requirement for the Commission to approve the report, the Startup Report is not required to be in the ITS to provide adequate protection of the public health and safety. The TRM will be incorporated by reference into the LaSalle 1 and 2 UFSAR at ITS implementation. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59.

LA.2 CTS 6.6.A.6.a(2) provides the detail associated with the MCPR Specification, which is addressed in the Core Operating Limits Report. This detail is to be relocated to the Bases of the individual Specification, i.e., B 3.2.2, MINIMUM CRITICAL POWER RATIO. The requirements of ITS 5.6.5 (Core Operating Limits Report) and LCO 3.2.2 are adequate to ensure the required limits are maintained. In addition, the requirements of ITS 5.6.5 provide regulatory controls over the detail to be relocated. As a result, the requirement proposed to be relocated is not required to be included in the ITS to provide adequate protection of the public health and safety. Additionally, changes to the Bases will be controlled by the provisions of the proposed Bases Control Program described in Chapter 5 of the ITS.

LA.3 The details of the actual topical reports document date, revision number, volume, supplement, and company identified in CTS 6.6.A.6.b are proposed to be relocated to the Core Operating Limits Report. The requirement in proposed 5.6.5.b, which lists the title and number of the documents and the added



TECHNICAL CHANGES - LESS RESTRICTIVE

LA.3 (cont'd) statement that the COLR will contain the complete identification of each of the TS referenced topical reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements), is adequate. In a letter from Mr. Stuart A. Richards (NRC) to Mr. James F. Mally (Siemens Power Corporation) dated December 15, 1999, entitled "Acceptance for Siemens References to Approved Topical Reports in Technical Specifications," the NRC stated that it is acceptable for the references to Topical Reports in TS to give the Topical Report title and number as long as the complete citation is given in the COLR and a statement in the TS that the COLR provides the complete citation of the reports used. Therefore, since all the details of CTS 6.6.A.6.b are maintained in the COLR the proposed changes are considered adequate. 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 COLR will be controlled by the provisions of the COLR change control process described in Chapter 5 of the ITS. 

"Specific"

L.1 This change proposes to relax the CTS 6.6.A.2 requirement for submitting the Occupational Radiation Exposure Report and the CTS 6.6.A.3 requirement for submitting the Annual Radiological Environmental Operating Report. The CTS require the reports to be submitted prior to March 1 and May 1 of each year, respectively. This proposed change will allow the reports to be submitted by April 30 and May 15 of each year, respectively. Given that the reports are still required to be provided to the NRC on or before April 30 or May 15, as applicable, and covers the previous calendar year, report completion and submittal is clearly not necessary to assure operation in a safe manner for the interval between March 1 and April 30 and May 1 and May 15. Additionally, there is no requirement for the NRC to approve the report. Therefore, this change has no impact on the safe operation of the plant.

RELOCATED SPECIFICATIONS

None

CTS 6.7

(See ITS Chapter 1.0)

DEFINITIONS

e. The suppression chamber is OPERABLE pursuant to Specification 3.6.2.1.

f. The sealing mechanism associated with each primary containment penetration; e.g., welds, bellows or O-rings, is OPERABLE.

g. Primary containment structural integrity has been verified in accordance with Surveillance Requirement 4.6.1.1.e.

PROCESS CONTROL PROGRAM

1.33 The PROCESS CONTROL PROGRAM (PCP) shall contain the current formulas, sampling, analyses, test, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR 20, 61, and 71, State regulations, burial ground requirements, and other requirements governing the disposal of solid radioactive waste.

LA.1

PURGE - PURGING

1.34 PURGE or PURGING shall be the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

RATED THERMAL POWER

1.35 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3489 MWT.

1C

REACTOR PROTECTION SYSTEM RESPONSE TIME

1.36 REACTOR PROTECTION SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. The response time may be measured by any series of sequential, overlapping or total steps such that the entire response time is measured.

REPORTABLE EVENT

1.37 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

ROD DENSITY

1.38 ROD DENSITY shall be the number of control rod notches inserted as a fraction of the total number of control rod notches. All rods fully inserted is equivalent to 100% ROD DENSITY.

(See ITS Chapter 1.0)

CTS 6.7

(See ITS Chapter 1.0)

DEFINITIONS

PRIMARY CONTAINMENT INTEGRITY (Continued)

f. The sealing mechanism associated with each primary containment penetration; e.g., welds, bellows or 0-rings, is OPERABLE.

g. Primary containment structural integrity has been verified in accordance with Surveillance Requirement 4.6.1.1.e.

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(See ITS Chapter 1.0)

⟨CTS⟩

5.2 Organization

5.2.2 Unit Staff (continued)

shall be assigned for each control room from which a reactor is operating in MODES 1, 2, or 3. [5]

Two unit sites with both units shutdown or defueled require a total of three non-licensed operators for the two units.

⟨6.1.C.1⟩ ⟨Fig. 6.1-3 footnote (b)⟩ TSTF-258

b. At least one licensed Reactor Operator (RO) shall be present in the control room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, or 3, at least one licensed Senior Reactor Operator (SRO) shall be present in the control room. [A]

⟨Fig 6.1-3 footnote (a)⟩ b → a. Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and 5.2.2.a and 5.2.2.g for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements. [2] [to] Specifications [6] [A]

c → d. A Health Physics Technician shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position. [A] TSTF-65

⟨6.1.C.2⟩ ⟨6.1.C.2 footnote *⟩ [1] Radiation Protection Technician

e. Administrative procedures shall be developed and implemented to limit the working hours of unit staff who perform safety related functions (e.g., licensed SROs, licensed ROs, health physicists, auxiliary operators, and key maintenance personnel). [1]

Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work an [8 or 12] hour day, nominal 40 hour week, while the unit is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modification, on a temporary basis the following guidelines shall be followed:

(continued)

⟨CTS⟩

5.2 Organization

5.2.2 Unit Staff (continued)

1. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time;

2. An individual should not be permitted to work more than 16 hours in any 24 hour period, nor more than 24 hours in any 48 hour period, nor more than 72 hours in any 7 day period, all excluding shift turnover time;

3. A break of at least 8 hours should be allowed between work periods, including shift turnover time;

4. Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Any deviation from the above guidelines shall be authorized in advance by the station manager or his designee, in accordance with approved administrative procedures, or by higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation.

Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the station manager or his designee to ensure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

OR

⟨6.1.C.7⟩

The amount of overtime worked by unit staff members performing safety related functions shall be limited and controlled in accordance with the NRC Policy Statement on working hours (Generic Letter 82-12).

⟨6.1.C.8⟩

TSTF-258 changes not adopted

The Operations Manager or Assistant Operations Manager shall hold an SRO license.

The Shift Technical Advisor (STA) shall provide advisory technical support to the Shift Supervisor (SS) in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. In addition, the STA shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

⟨6.1.C.6⟩

⟨Fig. 6.1-3 footnote (d)⟩

JUSTIFICATION FOR DEVIATIONS FROM NUREG-1434, REVISION 1
ITS: 5.2 - ORGANIZATION

1. The brackets have been removed and the proper plant specific information has been provided.

2. Typographical/grammatical error corrected.

3. 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.

4. Editorial changes made for enhanced clarity.

5. Changes have been made to ISTS 5.2.2.a to be consistent with current licensing basis.

6. The referenced requirements are Specifications, not CFR requirements. Therefore, the word "Specifications" has been added to clearly state that "5.5.2.a and 5.2.2.g" are Specifications.

7. The proper plant specific description of the individual to whom the STA provides technical support has been provided.

8. ISTS 5.2 (Organization) is revised by TSTF-258, Rev. 4. In order to maintain consistency, to the maximum extent practicable, between the Administrative Controls Technical Specifications of the ComEd nuclear stations, the following changes of TSTF-258, Rev. 4 are not incorporated in ITS 5.2:

   a. ISTS 5.2.2.e contains requirements for control of overtime of the plant staff. These requirements were revised by TSTF-258, Rev. 4.

   b. ISTS 5.2.2.g contains requirements for the Shift Technical Advisor. The title "Shift Technical Advisor (STA)" was deleted by TSTF-258, Rev. 4.

   Not incorporating these changes to ISTS 5.2 is consistent with the NRC approved ITS for the ComEd Byron and Braidwood Stations.

<LTS>

5.5 Programs and Manuals

5.5.4 Radioactive Effluent Controls Program (continued)

<6.2.F.4>

unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;

i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and [7]

Insert 5.5.4.j [7] TSTF-258

j. Limitations on the annual dose or dose commitment to any member of the public, beyond the site boundary, due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190; and [7] TSTF-258

<5.7> 5.5.5 Component Cyclic or Transient Limit

(U) [8] Table 5.2-4 [2]

This program provides controls to track the FSAR, Section *, cyclic and transient occurrences to ensure that components are maintained within the design limits.

Inservice Inspection Program for Post Tensioning Tendons

<6.2.F.6> 5.5.6 ~~Pre-Stressed Concrete Containment Tendon Surveillance Program~~

This program provides controls for monitoring any tendon degradation in pre-stressed concrete containments, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. The program shall include baseline measurements prior to initial operations. The Tendon Surveillance Program, inspection frequencies, and acceptance criteria shall be in accordance with ~~*~~Regulatory Guide 1.35, Revision 3, 1989~~*~~. [2]

Insert 5.5.6.a

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Tendon Surveillance Program inspection frequencies.

[2]

<4.0.5> 5.5.7 Inservice Testing Program

pumps and valves [9]

This program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components including applicable supports. The program shall include the following: [9] TSTF-279 [9]

(continued)

<CTS>

<6.2.F.8>

INSERT 5.5.8

Tests described in Specification 5.5.8.a and 5.5.8.b shall be performed once per 24 months; after each complete or partial replacement of the HEPA filter bank or charcoal adsorber bank; after any structural maintenance on the HEPA filter bank or charcoal adsorber bank housing; and, following painting, fire, or chemical release in any ventilation zone communicating with the subsystem while it is in operation that could adversely affect the filter bank or charcoal adsorber capability. |C |C

Tests described in Specification 5.5.8.c shall be performed once per 24 months; after 720 hours of system operation; after any structural maintenance on the charcoal adsorber bank housing; and, following painting, fire, or chemical release in any ventilation zone communicating with the subsystem while it is in operation that could adversely affect the charcoal adsorber capability. |C |C

Tests described in Specification 5.5.8.d and 5.5.8.e shall be performed once per 24 months.

5.5 Programs and Manuals

5.5.9 Explosive Gas and Storage Tank Radioactivity Monitoring Program (continued)

⟨3/4.11.1.1⟩
⟨Doc A.8⟩
⟨3/4.11.2.1⟩

The program shall include:

a. The limits for concentrations of hydrogen and oxygen in the Waste Gas Holdup System and a surveillance program to ensure the limits are maintained. Such limits shall be appropriate to the system's design criteria (i.e., whether or not the system is designed to withstand a hydrogen explosion); and

b. A surveillance program to ensure that the quantity of radioactivity contained in [each gas storage tank and fed into the offgas treatment system] is less than the amount that would result in a whole body exposure of ≥ 0.5 rem to any individual in an unrestricted area, in the event of [an uncontrolled release of the tanks' contents]; and

c. A surveillance program to ensure that the quantity of radioactivity contained in all outdoor liquid radwaste tanks that are not surrounded by liners, dikes, or walls, capable of holding the tanks' contents and that do not have tank overflows and surrounding area drains connected to the Liquid Radwaste Treatment System is less than the amount that would result in concentrations less than the limits of 10 CFR 20, Appendix B, Table 2, Column 2, at the nearest potable water supply and the nearest surface water supply in an unrestricted area, in the event of an uncontrolled release of the tanks' contents.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Explosive Gas and Storage Tank Radioactivity Monitoring Program surveillance frequencies.

5.5.10 Diesel Fuel Oil Testing Program

⟨Doc A.7⟩
⟨4.8.1.1.2.c⟩

A diesel fuel oil testing program to implement required testing of both new fuel oil and stored fuel oil shall be established. The program shall include sampling and testing requirements, and acceptance criteria, all in accordance with applicable ASTM Standards. The purpose of the program is to establish the following:

(continued)

5.5 Programs and Manuals

5.5.10 Diesel Fuel Oil Testing Program (continued)

(DOC A.7)
(4.8.11.2.c)

a. Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:

1. ~~an~~ API gravity or an absolute specific gravity within limits,
2. ~~a~~ flash point and kinematic viscosity within limits for ASTM 2D fuel oil, or water and sediment within limits
3. ~~a~~ clear and bright appearance with proper color;

TSTF-106: Verify that the properties of the new fuel oil, other than those addressed in a., above, are within limits

b. Other properties for ASTM 2D fuel oil are within limits within 31 days following sampling and addition to storage tanks; and (TSTF-106) (of the new fuel oil)

c. Total particulate concentration of the fuel oil is ≤ 10 mg/l when tested every 31 days in accordance with ASTM ~~D-2276, Method A-2 or A-3~~ the applicable standard (in the storage tanks)

5.5.11 Technical Specifications (TS) Bases Control Program

(DOC M.1)

This program provides a means for processing changes to the Bases of these Technical Specifications.

a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.

b. Licensees may make changes to Bases without prior NRC approval provided the changes do not involve (require) either of the following: (TSTF-364)

1. a change in the TS incorporated in the license; or
2. a change to the updated FSAR or Bases that involves an unreviewed safety question as defined in 10 CFR 50.59. (requires NRC approval pursuant to)

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Diesel Fuel Oil Testing Program test frequencies. (TSTF-118)

c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the FSAR.

d. Proposed changes that meet the criteria of ~~5.5.11b~~ above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without (5.5.11.b.1 or 5.5.11.b.2)

(continued)

INSERT 5.5.13

5.5.13 Primary Containment Leakage Rate Testing Program

a. This program shall establish the leakage rate testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix, J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Testing Program," dated September 1995.

b. The peak calculated primary containment internal pressure for the design basis loss of coolant accident, P_a, is 39.9 psig. 

c. The maximum allowable primary containment leakage rage, L_a, at P_a, is 0.635% of primary containment air weight per day.

d. Leakage rate acceptance criteria are:

   a. Primary containment overall leakage rate acceptance criterion is $\leq$ 1.0 L_a. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq$ 0.60 L_a for the combined Type B and Type C tests, and $\leq$ 0.75 L_a for Type A tests.

   b. Air lock testing acceptance criteria are:

      a. Overall air lock leakage rate is $\leq$ 0.05 L_a when tested at $\geq$ P_a.

      b. For each door, the seal leakage rate is $\leq$ 5 scf per hour when the gap between the door seals is pressurized to $\geq$ 10 psig.

e. The provisions of SR 3.0.3 are applicable to the Primary Containment Leakage Rate Testing Program.

5.6 Reporting Requirements

12

TSTF-258 changes not adopted

5.6.4 Monthly Operating Reports (continued)

⟨6.6.A.5⟩

1 valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

⟨6.6.A.6⟩

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

1 INSERT 5.6.5.a

The individual specifications that address core operating limits must be referenced here.

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

1 INSERT 5.6.5.b

TSTF-363

Identify the Topical Report(s) by number, title, date, and NRC staff approval document, or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.

C

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

7

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

a. RCS pressure and temperature limits for heatup, cooldown, low temperature operation, criticality, and hydrostatic testing as well as heatup and cooldown rates shall be established and documented in the PTLR for the following:

(continued)

<CTS>

INSERT 5.6.5.a

<6.6.A.6>

1. The APLHGR for Specification 3.2.1.

2. The MCPR for Specification 3.2.2.

3. The LHGR for Specification 3.2.3.

4. The Rod Block Monitor Upscale Instrumentation Setpoint for the Rod Block Monitor - Upscale Function Allowable Value for Specification 3.3.2.1.

INSERT 5.6.5.b
page 1 of 2

<6.6.A.6>

1. ANFB Critical Power Correlation, ANF-1125(P)(A). |C

2. Letter, Ashok C. Thadani (NRC) to R.A. Copeland (SPC), "Acceptance for Referencing of ULTRAFLOW™ Spacer on 9x9-IX/X BWR Fuel Design," July 28, 1993.

3. Advanced Nuclear Fuels Corporation Critical Power Methodology for Boiling Water Reactors/Advanced Nuclear Fuels Corporation Critical Power Methodology for Boiling Water Reactors: Methodology for Analysis of Assembly Channel Bowing Effects/NRC Correspondence, XN-NF-524(P)(A). |C

4. COTRANSA 2: A Computer Program for Boiling Water Reactor Transient Analysis, ANF-913(P)(A). |C

5. HUXY: A Generalized Multirod Heatup Code with 10 CFR 50, Appendix K Heatup Option, ANF-CC-33(P)(A). |C

6. Advanced Nuclear Fuel Methodology for Boiling Water Reactors, XN-NF-80-19(P)(A). |C

7. Generic Mechanical Design for Exxon Nuclear Jet Pump BWR Reload Fuel, XN-NF-85-67(P)(A). |C

8. Advanced Nuclear Fuels Corporation Generic Mechanical Design for Advanced Nuclear Fuels Corporation 9x9-IX and 9x9-9X BWR Reload Fuel, ANF-89-014(P)(A). |C

9. Volume 1 - STAIF - A Computer Program for BWR Stability Analysis in the Frequency Domain, Volume 2 - STAIF - A Computer Program for BWR Stability Analysis in the Frequency Domain, Code Qualification Report, EMF-CC-074(P)(A). |C

10. RODEX2 Fuel Rod Thermal-Mechanical Response Evaluation Model, XN-NF-81-58(P)(A). |C

11. XCOBRA-T: A Computer Code for BWR Transient Thermal-Hydraulic Core Analysis, XN-NF-84-105(P)(A). |C

<CTS>

<6.6.A.6>

12. Advanced Nuclear Fuels Corporation Methodology for Boiling Water Reactors EXEM BWR Evaluation Model, ANF-91-048(P)(A). C

13. Exxon Nuclear Plant Transient Methodology for Boiling Water Reactors, XN-NF-79-71(P)(A). C

14. Generic Mechanical Design Criteria for BWR Fuel Designs, ANF-89-98(P)(A). C

15. NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel." C

16. Commonwealth Edison Topical Report NFSR-0085, "Benchmark of BWR Nuclear Design Methods." C

17. Commonwealth Edison Topical Report NFSR-0091, "Benchmark of CASMO/MICROBURN BWR Nuclear Design Methods." C

18. ANFB Critical Power Correlation Application for Coresident Fuel, EMF-1125(P)(A). C

19. ANFB Critical Power Correlation Determination of ATRIUM-9B Additive Constant Uncertainties, ANF-1125(P)(A). C

The COLR will contain the complete identification for each of the TS referenced topical reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements). C