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9905170119 990511
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ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

01-53-M

- 3) Verifying the generator ~~is~~ is synchronized, loaded to greater than or equal to 2484 kW in less than or equal to 60 seconds, and operates for greater than or equal to 60 minutes at a load ~~= 2370 kW and = 2610 kW.~~

01-17-LS10
01-18-LS11
01-19-LS12

- 4) ~~Verifying the diesel generator is aligned to provide standby power to the associated emergency busses, and~~

01-20-LG

- 5) ~~Verifying the diesel engine protective relay trip cutout switch is returned to the cutout position following each diesel generator test.~~

(new) Verifying lube oil inventory is at least 650 gallons

01-48-M

(new) Verifying each diesel generator has at least one starting air receiver with a pressure at least 180 psig, and

01-48-M

(new) Verifying each DG turbocharger air assist air receiver pressure is at least 180 psig

01-64-M

b. At least once per 18 months ~~during shutdown~~ REFUELING INTERVAL by: Q 3.8.1-33

DC-ALL-005
01-76-LS-29

- 1) ~~Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.~~

01-20-LG

- 2) Verifying # that the load sequence timers are OPERABLE with each load sequence timer within the its limits specified in Table 4.8-2;

Q 3.8.1-33 01-74-M 01-55-M

DURING SHUTDOWN

Q 3.8.1-23

01-20-LG

- 3) ~~Verifying the generator capability to reject a load of greater than or equal to 508 kW while maintaining voltage at 4160 + 240/ 375 volts and frequency at 60 + 3 Hz. Verifying each DG rejects a load* greater than or equal to its single largest post-accident load, and:~~

01-72-LG 01-76-LS-29

01-26-M

Q 3.8.1-33

01-23-LG

01-76-LS-29

a. ~~Following load rejection, the frequency is = 63 Hz;~~

b. ~~Within 2.4 seconds following load rejection, the voltage is = 3785 V and = 4400 V; and~~

01-24-LS13

c. ~~Within 2.4 seconds following load rejection, the frequency is = 58.8 Hz and = 61.2 Hz.~~

01-25-M

- 4) Verifying the generator capability to reject a load of greater than or equal to ~~2370 kW and = 2610 kW~~ 2340 2600 while operating at a power factor of = 0.87, 2484 kW without tripping. The generator voltage shall not exceed ~~6200~~ 4580 volts during and following the load rejection;

01-18-LS11

01-26-M

01-27-LS9

Q 3.8.1-33

DURING SHUTDOWN UNLESS REQUIRED TO DEMONSTRATE OPERABILITY FOLLOWING UNPLANNED MAINTENANCE.

01-76-LS-29



ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

Q 3.8.1-33

6) *During Shut Down* Verifying that on a Safety Injection actual or test signal without loss of offsite power, the diesel generator starts from standby conditions on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be 4160 + 240/-375 volts and 60 + 1.2 Hz within 13 seconds after the auto-start signal; the steady state generator voltage and frequency shall be maintained within these limits during this test; 01-11-TR1
01-15-A
01-76-LS-29

7) Verify by Simulating or by an actual a loss of offsite power in conjunction with a Safety Injection actual or test signal, and: Q 3.8.1-33
01-76-LS-29
01-74-M 01-55-M
01-11-TR1

a) Verifying de-energization of the emergency busses and load shedding from the emergency busses; 01-15-A

b) Verifying the diesel starts from standby conditions on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected emergency (accident) loads through sequencing timers and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization of these loads, the steady state voltage and frequency of the emergency busses shall be maintained at 4160 + 240/-375 volts and 60 ± 1.2 Hz during this test; and 01-15-A

c) Verifying that all automatic diesel generator trips, except engine overspeed, low lube oil pressure and generator differential, are bypassed when the diesel engine trip cutout switch is in the cutout position and the diesel is aligned for automatic operation. 01-29-A
01-26-M

8) Verifying the diesel generator operates at a power factor $\leq 0.87^{**}$ for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 2750 kW ⁽²⁶⁰⁰⁾ and ≤ 2800 kW* and during the remaining 22 hours of this test, the diesel generator shall be loaded to greater than or equal to 2484 ⁽²³⁴⁰⁾ kW and ≤ 2610 kW*. The generator voltage and frequency shall be 4160 + 240/-375 volts and 60 + 1.2 Hz within 13 seconds after the start signal. For Units 1 and 2 Cycle 7: Within 5 minutes after completing this 24 hour test, perform Specification 4.8.1.1.2b.5)b):* 01-18-LS11
01-19-LS12
01-30-LG
01-31-A
DC 3.8-ED

9) Verifying that the auto connected loads to each diesel generator do not exceed the maximum rating of 2750 kW; Q 3.8.1-33
01-20-LG

10) Verifying the diesel generator's capability to: 01-76-LS-29
01-74-M 01-55-M

* For Units 1 and 2 Cycle 7: If Specification 4.8.1.1.2b.5)b) is not satisfactorily completed, it is not necessary to repeat the preceding 24 hour test. Instead the diesel generator may be operated at 2484 kW for 1 hour or until operating temperature has stabilized. 01-31-A

* Momentary transients outside the load range do not invalidate this test. 01-19-LS12

** Momentary transients outside the power factor range do not invalidate this test. 01-26-M

This surveillance shall not be performed in MODE 1, 2, 3, or 4. 01-74-M 01-55-M

During Shut Down unless Required to demonstrate OPERABILITY following UNPLANNED MAINTENANCE.

Q 3.8.1-33
01-76-LS 29



DESCRIPTION OF CHANGES TO TS SECTION 3/4.8

CHANGE NUMBER

NSHC

DESCRIPTION

01-65

A

Not applicable to DCP. See Conversion Comparison Table (Enclosure 3B).

01-66

TR3

This SR currently requires that at least once per 10 years or after any modifications which could affect emergency diesel generator (EDG) interdependence, during shutdown, and verify that both EDGs accelerate to [at least 514 RPM] in less than or equal to [12 seconds]. It is being proposed that this SR be revised to eliminate the requirement to perform the test after any modifications which could affect EDG interdependence.

This SR can be considered to be the "redundant unit test" in accordance with RG 1.9, "Selection and Diesel Generator Set Capacity for Standby Power Supplies," Rev. 3. This test demonstrates that by starting and running both redundant units simultaneously, potential "common cause failure" that may be undetected in single EDG unit tests do not occur. The proposed change to this SR will make it consistent with the ITS SR 3.8.1.20. The elimination of the requirement to perform this SR after any modification which could affect EDG interdependence is justified based upon the ability of the modification process to detect concerns related to the interdependence of the EDGs.

02-01

LG

The list of batteries and chargers in the CTS DC Sources - Operating LCO and ACTION requirement would be moved to the Bases. This deletes descriptive information from the TS, consistent with NUREG-1431.

02-02

A

The phrase, "that could degrade battery performance," would be added to clarify the purpose of the battery inspection SR consistent with TSTF-38. This change does not add or remove any technical requirements and is administrative in nature.

02-03

M

The requirement to remove visible terminal corrosion would be added to the SR verifying on an ⁽²⁴⁾12-month frequency that cell-to-cell and terminal connections are clean, tight, and coated with anticorrosion material. These elements of a visual inspection are consistent with IEEE-450, 1995. This change is consistent with NUREG-1431.

02-04

M

A Note would be added to SRs that these SRs are not to be performed in MODEs 1, 2, 3, or 4. Since these surveillances discharge the battery such that it would not have capacity left to perform its required function, this SR must be performed when the battery is not required to support an operable vital bus. The addition of this Note is consistent with NUREG-1431.

02-05

M

The SR would be changed to allow performing a modified performance discharge test instead of the performance discharge test. The modified performance test is a more severe test and envelopes the battery service discharge test. The results of the modified performance test provides assurance of the battery capability as well as battery capacity. This change is consistent IEEE-450, 1995 and with NUREG-1431.

02-06

LS22

Consistent with industry Traveler TSTF-115, this change would allow the extension of the surveillance frequency verification for battery terminal voltage while on float charge, and for Category A battery cell parameters from 7 days to 31 days in accordance with the recommended frequency of at least monthly identified in IEEE 450-1995, Section 4.3.1.

01-67-A

01-68-M

01-69-M

01-70-M

01-71-A Insert

01-72-LG Insert

01-73-LS27 - Insert

01-74-M Insert

Insert for 3A

Q3.8.1-04

Q3.8.1-23 DC

Insert for 3A

Q3.8.1-33

DC-ALL-005

(24)

Not Used

Q3.8.4-05
Q3.8.6-01

CP 3.8-007

11 { 01-75-M Not applicable to DCP. See Conversion Comparison Table (Encl. 3B).
01-76-LS-29 - Insert for 3A

Q3.8.1-33



Encl. 3A 11
Insert for DOC 01-76-LS-29

REVISION TO

FOR

Q3.8.1-33

The DCPD CTS wording "during shutdown" is removed from the frequency of Surveillance 4.8.1.1.1.b.1 for manual bus transfers, Surveillance 4.8.1.1.2.b.4 for EDG full load rejection testing and Surveillance 4.8.1.1.2.b.8 for the EDG 24 hour load run testing. The removal of "during shutdown" is justified for manual bus transfers based upon plant experience in that this is a required action in normal plant startups and shut downs with the unit in Mode 1. The removal of "during shutdown" from the EDG full load rejection testing is justified based upon plant experience which shows that the loss of EGD generation during the test produces only a minor disturbance on the ESF Bus. The removal of "during shutdown" from the 24 hour load run test is justified based on the plant design for switching and control logic which can safely maintain the ESF buses energized were an accident or loss-of-offsite power to occur during a 24-hour load run with the plant in Mode 1 power generation (an exception maybe long term degraded grid voltage which could result in tripping the EDG under test). This change will allow normal operation of the plant and facilitate post maintenance testing of a diesel without requiring a unit shutdown. This change is less restrictive.

AS PROVIDED FOR BY LA 44/43,
DATE OCTOBER 4, 1989

UNLESS REQUIRED TO DEMONSTRATE
OPERABILITY FOLLOWING UNPLANNED
MAINTENANCE."

ARE REVISED TO READ "DURING SHUTDOWN UNLESS REQUIRED TO
DEMONSTRATE OPERABILITY FOLLOWING UNPLANNED MAINTENANCE."



01-74-M - SEE INSERT
 01-75-M - SEE INSERT
 01-76-LS-29 - SEE INSERT

01-73-LS27
 01-67, 01-68, 01-69, 01-70 → see insert 3B
 01-71-A - see insert for Q3.8.1-04 / 01-72-16 see insert for Q3.8.1-23

Q3.8.1-20 CP
 CP 3.8-007
 Q3.8.1-33

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 Q3.8.1-33

CONVERSION COMPARISON TABLE - CURRENT TS

TECHNICAL SPECIFICATION CHANGE		APPLICABILITY			
	DESCRIPTION	Diablo Canyon	Comanchè Peak	Wolf Creek	Callaway
1-66 TR3	It is being proposed that this SR be revised to eliminate the requirement to perform the test after any modifications which could affect EDG interdependence.	Yes	Yes	Yes	Yes
02-01 LG	The list of batteries and chargers would be moved to the Bases.	Yes	Yes	Yes	Yes
02-02 A	The phrase, "that could degrade battery performance," would be added to clarify the purpose of the battery inspection SR (TSTF-38).	Yes	Yes	Yes	Yes
02-03 M	The requirement to remove visible terminal corrosion would be added to the SR verifying on an 6 ⁽²⁴⁾ month frequency that cell-to-cell and terminal connections are clean, tight, and coated with anticorrosion material.	Yes <i>DC-ALL-005</i>	Yes	Yes	Yes
02-04 M	A Note would be added to several SRs that this surveillance is not to be performed in MODEs 1, 2, 3, or 4.	Yes	Yes	Yes	Yes
02-05 M	The SR would be changed to allow performing a modified performance discharge test instead of the performance discharge test. The results of the modified performance test could be used in lieu of performing the battery service test, SR 3.8.4.7.	Yes	Yes	Yes	Yes
02-06 LS22	Consistent with industry Traveler TSTF-115 this change would allow the extension of the surveillance frequency verification for battery terminal voltage while on float charge, and for Category A battery cell parameters from 7 days to 31 days in accordance with the recommended frequency of at "least monthly" identified in IEEE 450-1995, Section 4.3.1 Not Used.	Yes NA	Yes NA	Yes NA	Yes NA <i>Q3.8.4-05</i> <i>Q3.8.6-01</i>



Insert for Q 3.8.1-33

Encl. 3B 11
Insert for DOC 01-76-LS-29

The DCPP CTS wording "during shutdown" is removed from the frequency of Surveillance 4.8.1.1.1.b.1 for manual bus transfers, Surveillance 4.8.1.1.2.b.4 for EDG full load rejection testing and Surveillance 4.8.1.1.2.b.8 for the EDG 24 hour load run testing.

Applicability:

CP	NO
DC	YES
WC	NO
CA	NO

ARE REVISED TO READ "DURING SHUTDOWN UNLESS REQUIRED TO DEMONSTRATE OPERABILITY FOLLOWING UNPLANNED MAINTENANCE."

Q 3.8.1-33



Enclosure 4

IV. SPECIFIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

ARE REVISED TO READ "DURING SHUTDOWN UNLESS REQUIRED TO DEMONSTRATE OPERABILITY FOLLOWING UNPLANNED MAINTENANCE."

NSHC LS-29
10 CFR 50.92 EVALUATION
FOR

Q 3.8.1-33

TECHNICAL CHANGES THAT IMPOSE LESS RESTRICTIVE REQUIREMENTS WITHIN THE TECHNICAL SPECIFICATIONS

The CTS wording "during shutdown" is removed from the frequency of Surveillance 4.8.1.1.1.b.1 for manual bus transfers, Surveillance 4.8.1.1.2.b.4 for emergency diesel generator (DG) full load rejection testing and Surveillance 4.8.1.1.2.b.8 for the DG 24 hour load run testing. The removal is consistent with the NUREG-1431 Reviewer's Bases Note, which allows removal of the MODE restriction Note for these SRs based upon three criteria:

SR REVISION

- 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

FOLLOWING AN UNPLANNED MAINTENANCE

These changes will make the TS language consistent with the normal method of operation of the plant and facilitate post maintenance testing of a DG during power operation without requiring a unit shutdown.

CONSISTENT WITH LA 44/43 DATED OCTOBER 4, 1989.

PLANT

1. SR 3.8.1.8 Note is modified to read "This Surveillance shall not be performed for automatic transfers in MODE 1 or 2." The Bases is revised to state that the Note associated with SR 3.8.1.8 applies only to automatic action which result in a unit trip and reactor trip during the transfer process and that it does not apply to the manual bus transfers. Plant experience supports this conclusion in that the manual transfer is a required step in any normal plant startup or shut down (placing the 500 kV delayed access offsite circuit in service or taking it out of service).
2. The Note limiting the ~~MODES~~ ^{THIS REVISION} in which SR 3.8.1.10 may be performed would be ~~removed~~ ^{THE REMOVAL} would be based upon the fact that the DCPD design allows this SR to be safely performed in all MODES. The load rejection does not create a perturbation on the ESF bus which is greater than accepted variations (result is a small drop in bus voltage).

Criteria a) and b) for SR performance in MODE 1 or 2 address the safety effects of the initial conditions of this SR where the DG must be paralleled with a bus which is attached to offsite power and then load the DG to its continuous load rating. This same capability is already required to be verified functional per SR 3.8.1.3 by loading the DG

REVISED TO READ "THIS SURVEILLANCE SHALL NOT BE PERFORMED IN MODE 1 OR 2 UNLESS REQUIRED TO DEMONSTRATE OPERABILITY FOLLOWING UNPLANNED MAINTENANCE."



for a time period equal to or greater than 60 minutes (no CTS or STS MODE restrictions apply) every 31 days.

Criteria c) for SR performance in MODE 1 or 2 addresses the effects of the load rejection test. This test is intended to demonstrate that the DG governor and DG voltage regulator are functioning properly by opening the output breaker on the DG being tested and verifying that it does not trip and verifying that the DG output voltage does not exceed the allowable value. The only potential risk associated with this test is to the DG (already inoperable) being tested. The bus from which the DG is removed is fully OPERABLE and supplied by the normal offsite power source (500 kV Auxiliary Power). The normal offsite power source is also supported by the fully OPERABLE "immediately available offsite power source" (230 kV Startup Power). The loads remain attached to the normal offsite power source throughout the test and are, therefore, subject to no apparent transient. The normal offsite power source is fully capable of handling the load rejection transient. Plant experience shows that the load rejection does not create a perturbation on the ESF bus which is greater than accepted variations (result is a small drop in bus voltage).

3.8.1-33

3. The Note limiting the ^{THIS REVISION} MODES in which SR 3.8.1.14 may be performed would be ~~removed~~. ~~The removal~~ would be based upon the fact that the DCPD design allows these SR to be safely performed in all MODES.

The considerations for performing this test in MODE 1 or 2 must include the effect of the test's initial conditions on the vital bus and any connected safety loads. Considerations must also include the potential effects of the test and of any potential failures of the test on the vital bus or any connected safety loads.

This endurance test SR is the last major test of the DG prior to declaring it OPERABLE. The ability of the DG to be paralleled to the bus and accept 100% of continuous rated load for a time period of equal to or greater than 1-hour would be already demonstrated per completion of SR 3.8.1.3 (with no MODE restriction in either the CTS or the STS). SR 3.8.1.3 does not limit the time period that the DG may be paralleled to the bus; it only provides a minimum time period. SR 3.8.1.14 differs only in the required duration and the 2-hour peak loading to 110% of continuous rated load (this value is also the 2-hour in 24-hour load rating of the DG). The bus and associated loads remain connected to the offsite power source throughout the test. The DG is also provided with an output breaker to protect the bus from any potential DG failure. The risk of catastrophic failure of the DG in such a manner as to jeopardize the safety of the bus (protected by a breaker) or safety systems attached to the bus is not credible. The plant design for switching and control logic is such that it can safely maintain the ESF buses energized if an accident or loss-of-offsite power were to occur during a 24-hour load run with the plant in Mode 1 power generation (an exception maybe long term degraded grid voltage which is not recognized could result in tripping the EDG under test prior to reaching the second level undervoltage protection setpoint).

REVISION TO READ "THIS SURVEILLANCE SHALL NOT BE PERFORMED IN MODE 1 OR 2 UNLESS REQUIRED TO DEMONSTRATE OPERABILITY FOLLOWING UNPLANNED MAINTENANCE."



This proposed TS change has been evaluated and it has been determined that it involves no significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92(c) as quoted below:

"The Commission may make a final determination, pursuant to the procedures in 50.91, that a proposed amendment to an operating license for a facility licensed under 50.21 (b) or 50.22 or for a testing facility involves no significant hazards consideration, if operation of the facility in accordance with the proposed amendment would not:

1. *Involve a significant increase in the probability or consequences of an accident previously evaluated; or*
2. *Create the possibility of a new or different kind of accident from any accident previously evaluated; or*
3. *Involve a significant reduction in a margin of safety."*

The following evaluation is provided for the three categories of the significant hazards consideration standards:

1. **Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?**

The proposed change concerning SR 3.8.1.8 manual bus transfers is consistent with normal plant operation and design. Therefore, it will not effect the probability or consequences of an accident.

The proposed change concerning the DG load rejection surveillance does not create a different plant configuration. The load rejection does not create a perturbation on the ESF bus which is greater than normally accepted variations. Consequently it will not effect any safety system that could be the initiator of an accident or that is used to mitigate an accident. Therefore, the probability, or consequences of an accident will not be effected.

The proposed change concerning the DG 24-hour load endurance test does not create a different plant configuration. Evaluation of the extended duration of the test shows that the plant design for switching and control logic can safely maintain the ESF buses energized if an accident or loss-of-offsite power were to occur. Therefore, the probability, or consequences of an accident will not be effected.

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 require physical alteration to any plant system or change the method by which any safety related system performs its function. No new plant operating configuration will result. Thus, the proposed change does not create the possibility of a new or different kind of accident from those previously evaluated.



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

The proposed change is consistent with the plant design and operation. No safety system is or could be rendered ~~OPERABILITY~~ inoperable. The margin of safety established by the testing remains unchanged. Thus there is no reduction in the margin of safety from that previously established.

NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Based on the above evaluation, it is concluded that the activities associated with NSHC "LS-29" resulting from the conversion to the improved TS format satisfy the no significant hazards consideration standards of 10 CFR 50.92(c); and accordingly, a no significant hazards consideration finding is justified.



SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9 -----NOTES-----</p> <p>1. This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>2. If performed with the DG synchronized with offsite power, it shall be performed at a power factor \leq [0.9].</p> <p>-----</p> <p>Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and:</p> <p>a. Following load rejection, the frequency is \leq 63 Hz;</p> <p>b. Within 2.4 [3] seconds following load rejection, the voltage is \geq 3785 [3740] V and \leq 4400 [4500] V; and</p> <p>c. Within 2.4 [3] seconds following load rejection, the frequency is \geq 58.8 Hz and \leq 61.2 Hz.</p> <p>unless required to demonstrate OPERABILITY following unplanned maintenance.</p>	<p><u>3.8-20</u></p> <p><u>B</u></p> <p><u>B</u></p> <p><u>B</u></p> <p><u>B</u></p> <p><u>B-PS</u></p> <p><u>B-PS</u></p> <p><u>B</u></p>
<p>SR 3.8.1.10 -----NOTE-----</p> <p>This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify each DG operating at a power factor \leq 0.87 [0.9] does not trip and voltage is maintained \leq 6200 [5000] V during and following a load rejection of \geq 2340 [4500] kW and \leq 2600 [5000] kW.</p>	<p><u>3.8-53</u> @3.8.1-33</p> <p><u>3.8-20</u></p> <p><u>B</u></p> <p><u>B</u></p> <p><u>B-PS</u></p> <p><u>B-PS</u></p>

(continued)



unless required to demonstrate OPERABILITY following unplanned maintenance.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.14</p> <p>-----NOTES-----</p> <p>1. Momentary transients outside the load and power factor ranges do not invalidate this test.</p> <p>2. This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify each DG operating at a power factor ≤ 0.87 [0.9] operates for ≥ 24 hours:</p> <p>a. For ≥ 2 hours loaded ≥ 2625 [5250] kW and ≤ 2890 [5500] kW; and</p> <p>b. For the remaining hours of the test loaded ≥ 2370 [4500] kW and ≤ 2610 [5000] kW.</p>	<p>$\phi 3.8.1-33$</p> <p><u>3.8-53</u></p> <p><u>3.8-20</u></p> <p><u>B</u></p> <p><u>DC-ALL-005</u></p> <p><u>B-PS</u></p> <p><u>B</u></p> <p><u>B-PS</u></p> <p><u>B-PS</u></p>
<p>SR 3.8.1.15</p> <p>-----NOTES-----</p> <p>1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 2 hours loaded ≥ 2370 [4500] kW and ≤ 2610 [5000] kW.</p> <p>Momentary transients outside of load range do not invalidate this test.</p> <p>2. All DG starts may be preceded by an engine prelude period.</p> <p>Verify each DG starts and achieves:</p> <p>a. in ≤ 10 seconds, speed ≥ 900 rpm; and</p> <p>b. in ≤ 13 [10] seconds, voltage ≥ 3785 [3740] V, and ≤ 4400 [4580] V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.</p>	<p><u>B</u></p> <p><u>B-PS</u></p> <p><u>DC-ALL-005</u></p> <p><u>3.8-40</u></p> <p><u>B</u></p> <p><u>B-PS</u></p> <p><u>B</u></p>

(continued)



B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.1 AC Sources - Operating

BASES

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 \leq [0.9] ~~0.87~~ lagging. This power factor is chosen to be representative of the actual design basis inductive loading that the DG would experience.

INTST

DC-3.8-E01
DC-AU-005

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.

STET

STET

~~This SR has been modified by a Note. The reason for the Note is that during operation with the reactor critical, performance of this SR could cause perturbation to the electrical distribution systems that could challenge continued steady state operation and, as a result, unit safety systems. Credit may be taken for unplanned events that satisfy this SR. This Note does not prohibit the application of LCO 3.0.5.~~

Q3.8.1-33

Delete

~~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.~~

THIS RISK IS COMPARED TO THE RISK ASSOCIATED WITH A SHUTDOWN OF THE UNIT WITHOUT THE AVAILABILITY OF A REQUIRED DG. THE RESULT IS THAT THIS SR SHALL NOT BE PERFORMED IN MODE 1 OR 2 UNLESS REQUIRED TO DEMONSTRATE OPERABILITY FOLLOWING UNPLANNED MAINTENANCE (REF 13).

Q3.8.1-33

(Continued)



B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.1 AC Sources - Operating

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.8.1.14 (continued)

The ⁽²⁴⁾ [10] month Frequency is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(3), takes into consideration unit 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. Similarly, momentary power factor transients above the power factor limit will not invalidate the test. ⁽²⁾ The reason for Note 2 is

that during operation with the reactor critical, performance of this Surveillance could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, unit safety systems. Credit may be taken for unplanned events that satisfy this SR. ~~This Note does not prohibit the application of LCO 3.8.1.5.~~

STET

STET

DC 3.8-ED 1

INTENT

DC-ALL-005

SR 3.8.1.15

This Surveillance demonstrates that the diesel engine can restart from a hot condition, such as subsequent to shutdown from normal Surveillances, and achieve stability by reaching the required voltage and frequency within [10] 13 seconds. The [10] 13 second time is derived from the requirements of the accident analysis to respond to a design basis large break LOCA accident. The [10] month Frequency is consistent with the recommendations of Regulatory Guide 1.108 (Ref. 9), paragraph 2.a.(5).

This SR is modified by two Notes. Note 1 ensures that the test is performed with the diesel sufficiently hot. The load band is provided to avoid routine overloading of the DG. Routine overloads may result in more frequent teardown inspections in accordance with vendor

The acceptance criteria represents the recovery of the DG and the power distribution system following a start and load transient. This assures the ability of the system to undergo further transients. Actual steady state operation is expected to achieve a level of stability closer to the nominal 60 Hz value.

This risk is compared to the risk associated with a shutdown of the unit without the availability of a required DG. The result is that this SR shall not be performed in Mode 1 or 2 unless required to demonstrate operability following unplanned maintenance (REF 13).

3.8.1-33

DC-ALL-005

DC 3.8-ED

3.3.1-33

(Continued)



B 3.8 ELECTRICAL POWER SYSTEMS

B 3.8.1 AC Sources - Operating

BASES

REFERENCES
(continued)

9. Regulatory Guide 1.108, Rev. 1, August 1977.
10. Regulatory Guide 1.137, Rev. 1, Oct 1979.
11. ASME, Boiler and Pressure Vessel Code, Section XI.
12. ~~IEEE Standard 308-1978~~ Generic Letter 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators," May 31, 1994

13. DIESEL GENERATOR ALLOWED OUTAGE TIME STUDY,
LA 44/43, OCTOBER 4, 1989.

Q3.8.1-33



JUSTIFICATION FOR DIFFERENCES FROM NUREG-1431

NUREG-1431 Section 3/4.8

**CHANGE
NUMBER**

JUSTIFICATION

- 3.8-41 The phrase, "that could degrade battery performance," would be added to clarify that the purpose of the battery inspection is to look for damage to or degradation of the battery that would affect the OPERABILITY of the battery, and that any damage or degradation that does not affect battery operation would not fail the surveillance acceptance criteria. This change is consistent with industry Traveler TSTF-38.
- 3.8-42 This change is not applicable to DCPP. See Conversion Comparison Table (Enclosure 6B).
- 3.8-43 For one DG inoperable while in MODE 1, 2, and 3, the requirement the CTS to confirm the OPERABILITY of the turbine-driven auxiliary feedwater (TDAFW) pump is part of ITS LCO 3.8.1, ACTION B.2. and a note has been added to make this requirement clear.
- 3.8-44 Not Used.
- 3.8-45 This change is not applicable to DCPP. See Conversion Comparison Table (Enclosure 6B).
- 3.8-46 This change is not applicable to DCPP. See Conversion Comparison Table (Enclosure 6B).
- 3.8-47 The ITS LCO 3.8.3, CONDITION B. requirement for a "per diesel generator" lube oil storage system is revised to reflect the current design of a shared system between units. This current design is similar to the DFO storage system and sizing is based upon a percentage of the DFO usage calculation during the mitigation of a DBA. This calculation reflects meeting a 7 day (or 6 day) operating criteria with single failure and minimum ESF loads.
- 3.8-48 - see Encl. 6A insert
- 3.8-49 - (insert for Q3.8.4-07)
- 3.8-50 }
3.8-51 } see Encl. 6A insert
3.8-52 }
- 3.8-53 - (insert for Q3.8.1-33)



THESE CHANGES WILL FACILITATE POST MAINTENANCE TESTING RESULTING FROM UNPLANNED MAINTENANCE OF A DG DURING UNIT POWER OPERATIONS. THIS IS CONSISTENT WITH LA 44/43, DATED OCTOBER 4, 1989.

Attachment 2
PG&E Letter DCL-98-180

Q 3.8.1-33 Insert for Q 3.8.1-33

Encl. 6A 5
JFD 3.8-53
Insert

REVISED TO STATE "THIS SURVEILLANCE SHALL NOT BE PERFORMED IN MODE 1 OR 2 UNLESS REQUIRED TO DEMONSTRATE OPERABILITY FOLLOWING UNPLANNED MAINTENANCE."

ITS SR 3.8.1.10, Note and ITS SR 3.8.1.14 Note 2 which restrict performance of these SRs in MODE 1 and 2 would be removed.

The removal of the Note in SR 3.8.1.10 would be based upon the fact that the DCPD design allows this SR to be safely performed in all MODES. This SR verifies the ability of the DG to reject a load equal to its continuous rating without tripping or exceeding the allowed voltage rise.

The STS contains a reviewer's Note, which allows removal of the MODE restriction Note for this SR based upon three criteria:

- 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.

Criteria a) and b) for SR performance in MODE 1 or 2 address the safety effects of the initial conditions of this SR where the DG must be paralleled with a bus which is attached to offsite power and then load the DG to its continuous load rating. This same capability is already required to be verified functional per SR 3.8.1.3 by loading the DG for a time period equal to or greater than 60 minutes (no CTS or STS MODE restrictions apply) every 31 days. The performance of SR 3.8.1.10 in MODE 1 or 2 will, therefore, not render any safety system or component inoperable nor will it cause perturbations to any of the electrical distribution systems that could result in a challenge to steady state operation or to plant safety systems.

Criteria c) for SR performance in MODE 1 or 2 addresses the effects of the load rejection test. This test is intended to demonstrate that the DG governor and DG voltage regulator are functioning properly by opening the output breaker on the DG being tested and verifying that it does not trip and verifying that the DG output voltage does not exceed the allowable value. The only potential risk associated with this test is to the DG (already inoperable) being tested. The bus from which the DG is removed is fully OPERABLE and supplied by the normal offsite power source (500 kV Auxiliary Power). The normal offsite power source is also supported by the fully OPERABLE "immediately available offsite power source" (230 kV Startup Power). The loads remain attached to the normal offsite power source throughout the test and are, therefore, subject to no apparent transient. The normal offsite power source is fully capable of handling the load rejection transient. Since the DG output breaker is open, the test poses no risk to the vital bus.



REVISION
The removal of the Note from SR 3.8.1.14 would be based upon the fact that the DCPD design allows these SR to be safely performed in all MODES. This SR verifies the capability of the DG to remain stable while accepting 110% of continuous rated load for 2 hour and then while accepting 100% of continuous rated load for the next 22 hours. Q 3.8.1-33

this
The considerations for performing this test in MODE 1 or 2 must include the effect of the test's initial conditions on the vital bus and any connected safety loads. Considerations must also include the potential effects of the test and of any potential failures of the test on the vital bus or any connected safety loads.

This endurance test SR is the last major test of the DG prior to declaring it OPERABLE. The ability of the DG to be paralleled to the bus and accept 100% of continuous rated load for a time period of equal to or greater than 1-hour would be already demonstrated per completion of SR 3.8.1.3 (with no MODE restriction in either the CTS or the STS). SR 3.8.1.3 does not limit the time period that the DG maybe paralleled to the bus; it only provides a minimum time period. SR 3.8.1.14 differs only in the required duration and the 2-hour peak loading to 110% of continuous rated load (this value is also the 2-hour in 24-hour load rating of the DG). The potential for failure of this SR exists principally in the DG which is under test. The bus and associated loads remain connected to the offsite power source throughout the test. The DG is also provided with an output breaker to protect the bus from any potential DG failure. The risk of catastrophic failure of the DG in such a manner as to jeopardize the safety of the bus (protected by a breaker) or safety systems attached to the bus is not credible.



DIFFERENCE FROM NUREG-1431		APPLICABILITY			
NUMBER	DESCRIPTION	Diablo Canyon	Comanche Peak	Wolf Creek	Callaway
3.8-46 <i>current</i>	Footnote (c) of ITS Table 3.8.6-1 would be modified to retain CTS requirements for using charging <u>current</u> as a substitute for specific gravity measurements.	No	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	Yes	No <i>CP 3.8-004</i>
3.8-47	The ITS LCO 3.8.3, Condition B., requirement for a "per diesel generator" lube oil storage system is revised to reflect the current design of a shared system between units.	Yes	No	No	No

3.8-48 *see End 63 insert*

3.8-49 *insert for Q3.8.4-07*

3.8-50 }
3.8-51 } *see End 63 insert*
3.8-52 }

3.8-53 *insert for Q3.8.1-33*



Encl. 6B 10
JFD 3.8-53
Insert

ITS SR 3.8.1.10, Note and ITS SR 3.8.1.14 Note 2 which restrict performance of these SRs in MODE 1 and 2 would be ~~removed~~.

APPLICABILITY:

DC YES
CP No, see JFD 3.8-50
WC No, see JFD 3.8-50
CA No, see JFD 3.8-50

REVISED TO READ "THIS SURVEILLANCE SHALL NOT BE PERFORMED IN MODE 1 OR 2 UNLESS REQUIRED TO DEMONSTRATE OPERABILITY FOLLOWING UNPLANNED MAINTENANCE."

Q 3.8.1-33

