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SEP 18 2012

U. S. Nuclear Regulatory Commission
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Mail Stop OP1-17
Washington, DC 20555-0001

SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 310 TO LICENSE NPF-14 AND
PROPOSED AMENDMENT NO. 282 TO LICENSE NPF-22:
CHANGE TO TECHNICAL SPECIFICATION SURVEILLANCE
REQUIREMENT (SR) 3.8.1.9, 3.8.1.11, 3.8.1.12, AND 3.8.1.19
TO INCREASE DIESEL GENERATOR MINIMUM STEADY
STATE VOLTAGE **Docket Nos. 50-387**
PLA-6825 **and 50-388**

Pursuant to 10 CFR 50.90, PPL Susquehanna, LLC (PPL), hereby requests approval of the following proposed amendment to the Susquehanna Steam Electric Station (SSES) Unit 1 and Unit 2 Technical Specification (TS), as described in the Enclosure. The proposed amendments would change Technical Specification Surveillance Requirements 3.8.1.9, 3.8.1.11, 3.8.1.12 and 3.8.1.19 in TS 3.8.1 "AC Source – Operating." Specifically, the proposed amendments will increase Diesel Generator acceptable minimum steady state voltage when operating in emergency/isochronous mode.

The change is proposed in order to eliminate the non-conservative Diesel Generator technical specification surveillance steady state minimum voltage. The proposed change will not impact the reliability of the Diesel Generators or adversely impact their ability to perform their safety function.

Justification for the change to the Unit 1 and Unit 2 TS Surveillance Requirements 3.8.1.9, 3.8.1.11, 3.8.12, and 3.8.1.19 is based upon the evaluation presented in the Enclosure. As demonstrated in the enclosed evaluation, the proposed amendments do not involve a significant hazard consideration.

PPL requests approval of the proposed change to Unit 1 and Unit 2 Technical Specifications by April 12, 2013. PPL further requests that the approved amendment be issued to be effective immediately upon approval with the implementation to be completed within 60 days.

Attachment 1 contains the Technical Specification markups reflecting the proposed change.

This change has been reviewed by the SSES Plant Operations Review Committee and by the Susquehanna Review Committee. In accordance with 10CFR 50.91(b), PPL Susquehanna, LLC is providing the Commonwealth of Pennsylvania with a copy of this proposed License Amendment request.

There are no regulatory commitments associated with the proposed changes.

If you have any questions or require additional information, please contact Mr. Duane L. Filchner at 610-774-7819.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 9-18-12

J. M. Helsel

Enclosure:
PPL Susquehanna, LLC Evaluation of Proposed Change to Unit1 and Unit 2 TS SR 3.8.1.9, 3.8.1.11, 3.8.1.12, and 3.8.1.19 "AC Sources – Operating"

Attachment:
Attachment 1 Proposed Unit 1 and Unit 2 Technical Specification Changes (Mark-Ups)

Copy:
NRC Region I
Mr. P. W. Finney, NRC Sr. Resident Inspector
Ms. C. J. Sanders, NRC Project Manager
Mr. L. J. Winker, DEP/BRP

Enclosure to PLA-6825

PPL Susquehanna, LLC
Evaluation of Proposed Change to
Unit 1 and Unit 2 Technical Specification Diesel Generator Surveillance Requirements 3.8.1.9, 3.8.1.11, 3.8.1.12, and 3.8.1.19

PPL EVALUATION

Subject: PPL Susquehanna, LLC Evaluation of Proposed Change to the Unit 1 and Unit 2 Technical Specifications (TS) Surveillance Requirements (SR) 3.8.1.9, 3.8.1.11, 3.8.1.12, and 3.8.1.19 and the associated TS Bases TS/B 3.8.1 SRs

1. DESCRIPTION

The proposed change to the PPL Susquehanna, LLC (PPL) Unit 1 and Unit 2 TS SR 3.8.1.9, 3.8.1.11, 3.8.1.12, and 3.8.1.19 would revise Diesel Generators (DGs) minimum steady state surveillance isochronous voltage from 3793 V to 4000 V. The proposed change is limited to the DGs minimum steady state voltage and does not affect the maximum steady state isochronous voltage. The current surveillance DG minimum steady state voltage of 3793 V represents 91.2% of nominal bus voltage and is the lowest expected setting due to tolerance of the Degraded Voltage Relays (DVRs) nominally set at 93%. If a low DG voltage activates the DVRs, the DG breaker would remain closed but the loads shed from the DG bus, which includes safety related loads, would be the same as those shed by the degraded grid actuation when the 4.16kV bus is being supplied for off-site power. This change will not apply to DG surveillance requirements (SR 3.8.1.7, SR 3.8.1.15, SR 3.8.1.20) when operating in droop (test) mode since in droop mode, DG steady state output voltage is adjustable to allow paralleling with the grid.

Should the proposed change be approved, PPL plans to implement associated Unit 1 and Unit 2 TS amendments within 60 days.

Mark-ups of the proposed change of the Unit 1 and Unit 2 Technical Specifications (TS) are included in Attachment 1.

2. PROPOSED CHANGE

The proposed technical change to the Unit 1 and Unit 2 TS SR 3.8.1.9, 3.8.1.11, 3.8.1.12, and 3.8.1.19 revises the DG surveillance minimum steady state isochronous voltage from "≥3793 V" to "≥4000 V". The proposed change will eliminate a non-conservative DG technical specification surveillance steady state minimum voltage (3793 V) which cannot assure all the required components would load onto the ESS bus during an emergency. 3793 V represents 91.2% of 4.16kV bus voltage, which is below the Degraded Voltage Relays (DVRs) nominal setting of 93%. The degraded grid voltage protection scheme

actuates to shed all non-permanently connected loads on an ESS bus and opens offsite power breakers to the subject bus when there is insufficient voltage from the offsite power sources. If the DG supplies voltage to the bus at the lower steady state limit of 3793V, the DVRs will not reset and the load shed signal will remain thus preventing emergency equipment from loading on the bus. To prevent unnecessary actuation of the 4160V degraded grid protection logic, the DG minimum surveillance steady state voltage when operating in isochronous mode should be increased above the upper value of the DVR reset voltage.

The proposed change will neither adversely affect DGs reliability nor their capability to perform intended design function.

3. BACKGROUND

The diesel generators are designed to provide highly reliable and self-contained source of power, in the event of a complete loss of offsite power to the associated 4.16kV bus, for the electrical loads required for a simultaneous shutdown of both reactors. This includes the loads required to mitigate the effects of a design basis Loss of Coolant Accident (LOCA) on one unit. Sufficient capacity remains after failure of one Diesel to operate the Engineered Safety Features of one Unit, and those systems required for concurrent safe shutdown of the second Unit.

Current SSES TS DG surveillances 3.8.1.9, 3.8.1.11, 3.8.1.12, and 3.8.1.19 applicable to the DG in isochronous (emergency) mode allow for DG surveillance minimum steady state of 3793 V representing approximately 91.2% of the 4.16kV bus. This represents a nonconservative Technical Specification since the abovementioned TS SR does not meet the requirements of 10CFR50.36 in that each TS Limiting Condition for Operation (LCO) specify, at a minimum, the lowest functional capability or performance level of equipment required for the safe operation of the facility. This condition was entered into the PPL Corrective Action Program.

The DGs nonconservative TS surveillance minimum steady state voltage, when operating in isochronous mode, does not affect the operability of the DGs. As such, administrative controls per NRC Administrative Letter 98-10 were implemented via affected procedure revisions.

The proposed TS change increases the minimum acceptable DG surveillance steady state voltage in isochronous mode from 3793 V to 4000 V. 4000 V would allow the DG minimum steady state output voltage to be above minimum required steady state equipment voltages and above DVRs maximum reset value of 3938.8 V (94.68%).

4. TECHNICAL ANALYSIS

The PPL Susquehanna, LLC units Class 1E AC Electrical Distribution System (EDS) AC sources consist of two offsite power sources (preferred and alternate) and the onsite standby power sources (DGs). The installed DGs have the capability to (1) start and accelerate a number of large motor loads in rapid succession while maintaining voltage and frequency within acceptable limits, (2) provide power promptly to engineered safety features if a loss of offsite power and an accident occur during the time period, and (3) supply power continuously to the equipment needed to maintain the plant in a safe condition if an extended loss of power occurs.

When aligned to an Engineered Safeguard System (ESS) bus, a DG starts on a LOCA signal or on an ESS bus degraded voltage or undervoltage signal. After the DG has started, it automatically ties to its respective bus after offsite power is tripped as a consequence of ESS bus undervoltage or degraded voltage, independent or coincident with a LOCA signal. The DGs also start and operate in the standby mode without tying to ESS bus on a LOCA signal alone.

The degraded voltage scheme ensures that Susquehanna SES can successfully cope with LOCA while being subjected to the extremely low probability event of a degraded voltage condition on the Class 1E EDS.

PPL SSES utilizes multiple levels of undervoltage relays to detect degradation of AC voltage. Four relays are connected to each 4.16kV bus. Two of the relays on each bus (27B1 and 27B2) are currently set to dropout at 93% of the rated voltage to detect sustained degraded voltage at the 4.16kV bus. When both the 27B1 and the 27B2 relays associated with any bus dropout coincidentally, transfer of that bus to an alternate source is initiated after 5 minutes during normal plant operation and 10 seconds during LOCA conditions. TS SR 3.8.1.9, 3.8.1.11, 3.8.1.12, and 3.8.1.19 current acceptable DG surveillance minimum steady state voltage of 3793V represents approximately 91.2% of nominal 4.16kV bus voltage. DG minimum acceptable steady state isochronous voltage of 3793V is above the minimum required equipment voltage but below the degraded grid relay maximum reset value of 94.68% of the 4.16kV bus. With the current TS DG surveillance minimum steady state voltage acceptance criteria, a DG low output voltage of 3793V in isochronous mode would actuate the degraded voltage protection scheme. The DG breaker would remain closed but associated loads shed would be consistent with degraded voltage loads shed, which includes safety related loads, when the 4.16kV bus is being supplied by offsite power source (primary or alternate).

The proposed amendment to increase TS SR 3.8.1.9, 3.8.1.11, 3.8.1.12, and 3.8.1.19 DG surveillance minimum acceptable steady state isochronous voltage from 3793 V to 4000 V will not cause undesired operation of the degraded voltage protection scheme. The new DG minimum steady state voltage 4000 V would be above the minimum required equipment voltage and above the DVRs maximum reset value.

This change is applicable to DG operation in isochronous (emergency) mode only. When operating in droop (test) mode, the DG output voltage and frequency are adjusted to match parallel offsite source. Therefore, the concern of connecting the DG in droop (test) mode to its corresponding 4.16kV bus in the degraded voltage protection range does not exist.

4.1 Surveillance Test History

SSES DGs surveillance historical test results have shown DGs minimum steady state voltage consistently above the TS SR value. In the isochronous mode, DGs frequency is fixed at 60 Hz and voltage controlled at 4250 V. Reviews of past DG surveillance voltage traces show steady state output voltage within acceptable range of 4150V – 4350V which is higher than the proposed 4000V.

5. REGULATORY SAFETY ANALYSIS

5.1 No Significant Hazards Consideration

Amendments are proposed to the Unit 1 and Unit 2 Technical Specification SR 3.8.1.9, 3.8.1.11, 3.8.1.12, and 3.8.1.19 to change the DG surveillance steady state minimum voltage from "≥3793 V" to "≥4000 V". The proposed change will be limited to the DGs minimum steady state voltage and does not affect the maximum steady state voltage. The current surveillance DG minimum steady state voltage of 3793 V represents 91.2% of nominal bus voltage and is the lowest expected setting due to tolerance of the Degraded Voltage Relays (DVRs) nominally set at 93%. This change will not apply to DG surveillance requirements when operating in test (droop) mode since in droop mode, DG steady state output voltage is adjustable to allow paralleling with the grid.

PPL Susquehanna, LLC (PPL) has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10CFR50.92, "Issuance of amendment," as discussed below:

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

Response: No

The proposed increase of the DG surveillance minimum steady state isochronous voltage does not adversely affect DGs or any other Systems Structures, and Components (SSCs) design function or an analysis that verifies the capability of an SSC to perform its design function. Implementation of the proposed change does neither involve physical work activity to the DGs, nor change the safety function of the diesel generators. This change

only affects one of the surveillance criteria to determine acceptable steady state operation of the diesel following simulated or actual load rejection, Loss Of Offsite Power (LOOP), Emergency Core Cooling System (ECCS) initiation and LOOP in conjunction with ECCS signals. As such, the proposed amendment would not change any of the previously evaluated accidents in the FSAR. The DG capability to provide highly reliable and self-contained source of power, in the event of a complete loss of offsite power to the associated 4.16kV bus, for the electrical loads required for a simultaneous shutdown of both reactors remains unaffected. Affected SSCs, operating procedures, and administrative controls do not have the function of preventing or mitigating any of the accidents as described in the FSAR.

The proposed amendment does not adversely affect current plant operation parameters. Therefore, the proposed amendment does not result in a significant increase in the probability or consequences of any previously evaluated accident.

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

Response: No.

The proposed amendment will not adversely affect the design function or operation of the diesel generators as described in the FSAR. Implementation of this TS change will not require installation of new system component, construction activities, and performance of testing or maintenance that will affect the DGs operation or their ability to perform their design function. Changes in affected surveillance procedures have been made to increase the DG surveillance minimum steady state isochronous voltage from 3793 V to 4000V. This change represents only an increase in the minimum acceptable steady state isochronous voltage and does not affect steps performed within these procedures or any other plant document used to demonstrate DGs capability to perform their design function. Credible new failure mechanisms, malfunctions, or accident initiators not considered in the design and licensing bases of SSES would not be added by the proposed amendment. As such, the proposed change would not create the possibility of a new or different kind of accident.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

The proposed increase of the DG surveillance minimum steady state isochronous voltage would only adjust minimum acceptable steady state voltage since DGs surveillances

historical data have shown minimum steady state voltage above 3793V. This TS change will tighten DGs surveillance steady state voltage acceptable band and lessen the potential adverse effect on degraded grid relays operation. As such, it would represent a conservative increase of the DG surveillance minimum steady state voltage when operating in isochronous (emergency) mode. No changes to the DG surveillance maximum steady state voltage or its surveillance requirements when operating in test (droop) mode will be implemented as part of this proposed amendment.

PPL Susquehanna, LLC operation safety margin is established and maintained through the design of its SSCs, parameters of operation, and component actuation setpoints. The proposed change does not exceed or alter an existing design basis or safety limit as established in the FSAR or the license. Thus, it does not significantly reduce previously existing safety margin.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, PPL Susquehanna, LLC (PPL) concludes that the proposed amendment(s) present no significant hazards consideration under the standards set forth in 10CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

The regulatory basis for TS 3.8.1 "AC Sources – Operating" is to ensure that highly reliable, self-contained source of power is supplied to SSCs important to safety in the event of a complete loss of off-site power to the associated 4.16kV bus.

10CFR Part 50, General Design Criteria (GDC 1), "Quality standards and records," requires that Structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed.

GDC 2, "Design bases for protection against natural phenomena," requires that SSCs important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions.

GDC 4, "Environmental and dynamic effects design bases," requires that SSCs important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents.

GDC 5, "Sharing of structures, systems, and components," requires that SSCs important to safety shall not be shared among nuclear power units unless it can be shown that such sharing will not significantly impair their ability to perform their safety functions, including, in the event of an accident in one unit, an orderly shutdown and cooldown of the remaining units.

GDC 17, "Electric power systems," requires that an onsite electric power system and an offsite electric power system shall be provided to permit functioning of SSCs important to safety. The onsite electric power supplies, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure. Provisions shall be included to minimize the probability of losing electric power from any of the remaining supplies as a result of, or coincident with, the loss of power generated by the nuclear power unit, the loss of power from the transmission network, or the loss of power from the onsite electric power supplies.

GDC 18, "Inspection and testing of electric power systems," requires that Electric power systems important to safety shall be designed to permit appropriate periodic inspection and testing to assess the continuity of the systems and the condition of their components. Such power system testing shall be designed to test periodically the operability of the system as a whole and, under conditions as close to design as practical, the full operation sequence that brings the systems into operation, including operation of applicable portions of the protection system, and the transfer of power among the nuclear power unit, the offsite power system, and the onsite power system.

GDC 21, "Protection system reliability and testability," requires that the protection system shall be designed for high functional reliability and in-service testability commensurate with the safety functions to be performed. Such protection system shall be designed to permit periodic testing of its functioning when the reactor is in operation, including a capability to test channels independently to determine failures and losses of redundancy that may have occurred.

The proposed amendment which is increasing the DG surveillance minimum steady state voltage when operating in isochronous mode does not change the DG system compliance with the above General Design Criteria.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6. ENVIRONMENTAL CONSIDERATION

10CFR 51.22(c)(9) identifies certain licensing, regulatory, and administrative actions eligible for categorical exclusion or otherwise not requiring environmental review. A proposed amendment to a facility operating license which changes a requirement, or grants an exemption from any such requirement, with respect to installation or use of a facility component located within the restricted area, or which changes an inspection or a surveillance requirement does not require an environment assessment provided that: (1) the subject amendment involves no significant hazards consideration; (2) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite; and (3) there is no significant increase in individual or cumulative occupational radiation exposure.

PPL Susquehanna, LLC has evaluated the proposed change and determined the subject change meet the criteria for categorical exclusion set forth in 10CFR51.22(c)(9). As such, per 10CFR 51.22(b), an environmental assessment or an environmental impact statement is not required for this proposed amendment. Following is the basis for this determination, using the aforementioned criteria.

Basis:

As demonstrated in the "No Significant Hazards Consideration" evaluation, the proposed change does not involve a significant hazards consideration.

The proposed amendment does not involve addition or deletion of component in the DG system or any other SSCs. Neither normal plant operation parameters nor existing DG system responses to Design Basis Accidents (DBA) or a combination of DBA as described in the FSAR would be adversely affected by the implementation of this proposed change. Change in the types or significant increase in the amounts of any effluents that may be released offsite, or significant increase in individual or cumulative occupational radiation exposure would not occur upon increase of DG surveillance minimum steady state voltage when operating in isochronous mode.

7. REFERENCES

7.1 FSAR Section 8.3.1.4
7.2 10CFR 50.63
7.3 10CFR 50, Appendix A, GDC
7.4 10CFR 51.22
7.5 NRC Administrative Letter 98-10
7.6 NRC Regulatory Guide 1.9
7.7 NRC Regulatory Guide 1.108

Attachment 1 to PLA-6825

Unit 1 and Unit 2 Technical Specification Changes (Mark-Ups)

3.8 Electrical Power Systems

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.9	----------NOTE---------- A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and: a. Following load rejection, the frequency is ≤ 64.5 Hz; b. Within 4.5 seconds following load rejection, the voltage is ≥ 3760 V and ≤ 4560 V, and after steady state conditions are reached, maintains voltage ≥ ~~3760~~ 4000V and ≤ 4400 V; and c. Within 6 seconds following load rejection, the frequency is ≥ 58.8 Hz and ≤ 61.2 Hz.	24 months
SR 3.8.1.10	----------NOTES---------- A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG does not trip and voltage is maintained ≤ 4560 V during and following a load rejection of ≥ 4000 kW.	24 months

(continued)

3.8 Electrical Power Systems

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.8.1.11 ----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This SR shall be performed for each DG on a rotational test basis and for each 4.16 kV ESS bus at the specified FREQUENCY. 3. This Surveillance shall not be performed in MODE 1, 2 or 3. ---------- Verify on an actual or simulated loss of offsite power signal: a. De-energization of 4.16 kV ESS buses; b. Load shedding from 4.16 kV ESS buses; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ 10 seconds, 2. energizes auto-connected shutdown loads through individual load timers, 3. maintains steady state voltage ≥ ~~3793 V~~ 4000V and ≤ 4400 V, 4. maintains steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies permanently connected loads for ≥ 5 minutes.	24 months

(continued)

3.8 Electrical Power Systems

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.8.1.12 ----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. DG E, when not aligned to the Class 1E distribution system, may satisfy this SR for both units by performance of SR 3.8.1.12.a, b and c using the test facility to simulate a 4.16 kV ESS bus. SR 3.8.1.12.d and e may be satisfied with either the normally aligned DG or DG E aligned to the Class 1E distribution system. ---------- Verify, on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal, each DG auto-starts from standby condition and: a. In ≤ 10 seconds after auto-start achieves voltage ≥ 3793 V, and after steady state conditions are reached, maintains voltage ≥ ~~3793 V~~ 4000V and ≤ 4400 V; b. In ≤ 10 seconds after auto-start achieves frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains 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 individual load timers from the offsite power system.	24 months

(continued)

3.8 Electrical Power Systems

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.8.1.19 ----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This SR shall be performed for each DG on a rotational test basis and for each 4.16 kV ESS bus at the specified FREQUENCY. 3. This Surveillance shall not be performed in MODE 1, 2 or 3. ---------- 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 4.16 kV ESS 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 individual load timers, 3. achieves steady state voltage ≥ ~~3793 V~~ 4000 V and ≤ 4400 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

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.9	----------NOTE---------- A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and: a. Following load rejection, the frequency is ≤ 64.5 Hz; b. Within 4.5 seconds following load rejection, the voltage is ≥ 3760 V and ≤ 4560 V, and after steady state conditions are reached, maintains voltage ≥ ~~3793~~ 4000V V and ≤ 4400 V; and c. Within 6 seconds following load rejection, the frequency is ≥ 58.8 Hz and ≤ 61.2 Hz.	24 months
SR 3.8.1.10	----------NOTE---------- A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG does not trip and voltage is maintained ≤ 4560 V during and following a load rejection of ≥ 4000 kW.	24 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.8.1.11 ----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2 or 3. 3. This SR shall be performed for each DG on a rotational test basis and for each 4.16 kV ESS bus at the specified FREQUENCY. ---------- Verify on an actual or simulated loss of offsite power signal: a. De-energization of 4.16 kV ESS buses; b. Load shedding from 4.16 kV ESS buses; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ 10 seconds, 2. energizes auto-connected shutdown loads through individual load timers, 3. maintains steady state voltage ≥ ~~3793~~ 4000V and ≤ 4400 V, 4. maintains steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies permanently connected loads for ≥ 5 minutes.	24 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.8.1.12 ----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. DG E, when not aligned to the Class 1E distribution system, may satisfy this SR for both units by performance of SR 3.8.1.12.a, b and c using the test facility to simulate a 4.16 kV ESS bus. SR 3.8.1.12.d and e may be satisfied with either the normally aligned DG or DG E aligned to the Class 1E distribution system. ---------- Verify, on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal, each DG auto-starts from standby condition and: a. In ≤ 10 seconds after auto-start achieves voltage ≥ 3793 V, and after steady state conditions are reached, maintains voltage ≥ ~~3793~~ 4000V V and ≤ 4400 V; b. In ≤ ~~10~~ seconds after auto-start achieves frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains 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 individual load timers from the offsite power system.	24 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.8.1.19 ----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This SR shall be performed for each DG on a rotational test basis and for each 4.16 kV ESS bus at the specified FREQUENCY. 3. This Surveillance shall not be performed in MODE 1, 2 or 3. ---------- 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 4.16 kV ESS 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 individual load timers, 3. achieves steady state voltage ≥ ~~3793~~ 4000V and ≤ 4400 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

(continued)