SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.3	----------NOTES---------- 1. DG loadings may include gradual loading as recommended by the manufacturer. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by, and immediately follow, without shutdown, a successful performance of SR 3.8.1.2 or SR 3.8.1.7. 5. The endurance test of SR 3.8.1.14 may be performed in lieu of the load-run test in SR 3.8.1.3 provided the requirements, except the upper load limits, of SR 3.8.1.3 are met. ---------- Verify each required DG is synchronized and loaded and operates for $\geq$ 60 minutes at a load $\geq$ 4000 kW and $\leq$ 4400 kW for DG-1 and DG-2, and $\geq$ 2340 kW and $\leq$ 2600 kW for DG-3.	31 days
SR 3.8.1.4	Verify each required day tank contains $\geq$ 1400 gal of fuel oil.	31 days
SR 3.8.1.5	Check for and remove accumulated water from each required day tank.	31 days

(continued)

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.1.6	Verify each required fuel oil transfer subsystem operates to automatically transfer fuel oil from the storage tank to the day tank.	92 days
SR 3.8.1.7	----------NOTE---------- All DG starts may be preceded by an engine prelube period. ---------- Verify each required DG starts from standby condition and achieves: a. For DG-1 and DG-2 in $\leq$ 15 seconds, voltage $\geq$ 3910 V and frequency $\geq$ 58.8 Hz, and after steady state conditions are reached, maintains voltage $\geq$ 3910 V and $\leq$ 4400 V and frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz; and b. For DG-3, in $\leq$ 15 seconds, voltage $\geq$ 3740 V and frequency $\geq$ 58.8 Hz, and after steady state conditions are reached, maintains voltage $\geq$ 3740 V and $\leq$ 4400 V and frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz.	184 days
SR 3.8.1.8	----------NOTE---------- The automatic transfer function of this Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify automatic and manual transfer of the power supply to safety related buses from the startup offsite circuit to the backup offsite circuit.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.9	----------NOTES---------- 1. Credit may be taken for unplanned events that satisfy this SR. 2. If performed with the DG synchronized with offsite power, it shall be performed at a power factor as close to the power factor of the single largest post-accident load as practicable. ---------- Verify each required DG rejects a load greater than or equal to its associated single largest post-accident load, and following load rejection, the frequency is $\leq$ 66.75 Hz.	24 months
SR 3.8.1.10	----------NOTES---------- 1. Credit may be taken for unplanned events that satisfy this SR. 2. If performed with the DG synchronized with offsite power, it shall be performed at the accident load power factor, or at a power factor as close to the accident load power factor as practicable with the field excitation current $\geq$ 90% of the continuous rating. ---------- Verify each required DG does not trip and voltage is maintained $\leq$ 4784 V during and following a load rejection of a load $\geq$ 4400 kW for DG-1 and DG-2 and $\geq$ 2600 kW for DG-3.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

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. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify on an actual or simulated loss of offsite power signal: a. De-energization of emergency buses; b. Load shedding from emergency buses for Divisions 1 and 2; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in $\leq$ 15 seconds for DG-1 and DG-2, and in $\leq$ 18 seconds for DG-3, 2. energizes auto-connected shutdown loads, 3. maintains steady state voltage $\geq$ 3740 V and $\leq$ 4400 V, 4. maintains steady state frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz, and 5. supplies permanently connected and auto-connected shutdown loads for $\geq$ 5 minutes.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.12	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each required DG auto-starts from standby condition and: a. For DG-1 and DG-2, in $\leq$ 15 seconds achieves voltage $\geq$ 3910 V, and after steady state conditions are reached, maintains voltage $\geq$ 3910 V and $\leq$ 4400 V and, for DG-3, in $\leq$ 15 seconds achieves voltage $\geq$ 3740 V, and after steady state conditions are reached, maintains voltage $\geq$ 3740 V and $\leq$ 4400 V; b. In $\leq$ 15 seconds, achieves frequency $\geq$ 58.8 Hz and after steady state conditions are achieved, maintains frequency $\geq$ 58.8 Hz and $\leq$ 61.2 Hz; c. Operates for $\geq$ 5 minutes; d. Permanently connected loads remain energized from the offsite power system; and e. Emergency loads are auto-connected to the offsite power system.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.13	----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify each required DG's automatic trips are bypassed on an actual or simulated ECCS initiation signal except: a. Engine overspeed; b. Generator differential current; and c. Incomplete starting sequence.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.14	----------NOTES---------- 1. Momentary transients outside the load, excitation current, and power factor ranges do not invalidate this test. 2. Credit may be taken for unplanned events that satisfy this SR. 3. If performed with the DG synchronized with offsite power, it shall be performed at the accident load power factor, or at a power factor as close to the accident load power factor as practicable with the field excitation current $\geq$ 90% of the continuous rating. ---------- Verify each required DG operates for $\geq$ 24 hours: a. For $\geq$ 2 hours loaded $\geq$ 4650 kW for DG-1 and DG-2, and $\geq$ 2850 kW for DG-3; and b. For the remaining hours of the test loaded $\geq$ 4400 kW for DG-1 and DG-2, and $\geq$ 2600 kW for DG-3.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.1.15 ----------NOTES---------- 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 1 hour loaded ≥ 4000 kW for DG-1 and DG-2, and ≥ 2340 kW for DG-3. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. ---------- Verify each required DG starts and achieves: a. For DG-1 and DG-2, in ≤ 15 seconds, voltage ≥ 3910 V and frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains voltage ≥ 3910 V and ≤ 4400 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz; and b. For DG-3, in ≤ 15 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains voltage ≥ 3740 V and ≤ 4400 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.16	----------NOTE---------- This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify each required DG: a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; b. Transfers loads to offsite power source; and c. Returns to ready-to-load operation.	24 months
SR 3.8.1.17	----------NOTE---------- Credit may be taken for unplanned events that satisfy this SR. ---------- Verify, with a DG operating in test mode and connected to its bus, an actual or simulated ECCS initiation signal overrides the test mode by: a. Returning DG to ready-to-load operation; and b. Automatically energizing the emergency load from offsite power.	24 months

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.1.18 ----------NOTE---------- This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify interval between each sequenced load block is within ± 10% of design interval for each time delay relay.	24 months
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, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal: a. De-energization of emergency buses; b. Load shedding from emergency buses for DG-1 and DG-2; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads in ≤ 15 seconds, 2. energizes auto-connected emergency loads, 3. maintains steady state voltage ≥ 3740 V and ≤ 4400 V,	24 months

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