SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.7	----------NOTE---------- 1. All DG starts may be preceded by an engine prelube period followed by a warmup period prior to loading. 2. The steady state voltage and frequency limits are analyzed values and have not been adjusted for instrument error. ---------- Verify each DG starts from standby condition and achieves a. In ≤ 10 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and b. Steady state voltage ≥ 4000 V and ≤ 4377.2 V, and frequency ≥ 59.7 Hz and ≤ 60.7 Hz.	184 days
SR 3.8.1.8	----------NOTE---------- This Surveillance shall not normally be performed in MODE 1 or 2. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. ---------- Verify manual transfer of AC power sources from the normal offsite circuit to each alternate offsite circuit.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.1.11	----------NOTE---------- 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. 3. Momentary voltage and frequency transients induced by load changes do not invalidate this test. 4. The steady state voltage and frequency limits are analyzed values and have not been adjusted for instrument error. ----------	
	Verify on an actual or simulated loss of offsite power signal: a. De-energization of emergency buses; b. Load shedding from emergency buses; c. DG auto-starts and: 1. energizes permanently connected loads in ≤ 10 seconds, 2. energizes auto-connected emergency loads through automatic load sequencer, 3. maintains steady state voltage ≥ 4000 V and ≤ 4377.2 V, 4. maintains steady state frequency ≥ 59.7 Hz and ≤ 60.7 Hz, and 5. supplies permanently connected and auto-connected emergency loads for ≥ 5 minutes.	18 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. This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. 3. The steady state voltage and frequency limits are analyzed values and have not been adjusted for instrument error. ---------- Verify on an actual or simulated Engineered Safety Feature (ESF) actuation signal (without a loss of offsite power) each DG auto-starts and: a. In ≤ 10 seconds, achieves voltage ≥ 3740 V and frequency ≥ 58.8 Hz; b. Achieves steady state voltage ≥ 4000 and ≤ 4377.2 V and frequency ≥ 59.7 Hz and ≤ 60.7 Hz; c. Operates for ≥ 5 minutes on standby (running unloaded); d. Permanently connected loads remain energized from the offsite power system; and e. Emergency loads are energized (auto-connected through the automatic load sequencer) from the offsite power system.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.8.1.13 Verify each DG automatic trip is bypassed on actual or simulated loss of voltage signal on the emergency bus concurrent with an actual or simulated ESF actuation signal except: a. Engine overspeed; b. Generator differential current; c. Engine low lube oil pressure; and d. Manual emergency stop trip.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

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, loaded ≥ 4950 kW and ≤ 5500 kW, has operated ≥ 2 hours or until temperatures have stabilized. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. The steady state voltage and frequency limits are analyzed values and have not been adjusted for instrument error. ---------- Verify each DG starts and achieves a. In ≤ 10 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and b. Steady state voltage ≥ 4000 V and ≤ 4377.2 V, and frequency ≥ 59.7 Hz and ≤ 60.7 Hz.	18 months
SR 3.8.1.16	----------NOTE---------- This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. ---------- Verify each 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)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.17	----------NOTE---------- This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. ----------	
	Verify, with a DG operating in test mode and connected to its bus, an actual or simulated ESF actuation signal overrides the test mode by: a. Returning DG to ready-to-load operation; and b. Automatically energizing the emergency load from offsite power.	18 months
SR 3.8.1.18	----------NOTE---------- This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. ----------	
	Verify interval between each sequenced load block is within ± 1 second of design interval for each automatic load sequencer.	18 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 Surveillance shall not normally be performed in MODE 1, 2, 3, or 4. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. 3. The steady state voltage and frequency limits are analyzed values and have not been adjusted for instrument error. ---------- Verify on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ESF actuation signal: a. De-energization of emergency buses; b. Load shedding from emergency buses; 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 ≥ 4000 V and ≤ 4377.2 V, 4. achieves steady state frequency ≥ 59.7 Hz and ≤ 60.7 Hz, and 5. supplies permanently connected and auto-connected emergency loads for ≥ 5 minutes.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.20	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. The steady state voltage and frequency limits are analyzed values and have not been adjusted for instrument error. ---------- Verify, when started simultaneously, each DG achieves a. In ≤ 10 seconds, voltage ≥ 3740 V and frequency ≥ 58.8 Hz; and b. Steady state voltage ≥ 4000 V and ≤ 4377.2 V, and frequency ≥ 59.7 Hz and ≤ 60.7 Hz.	10 years

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.8.4.6	----------NOTE---------- This Surveillance shall not normally be performed in MODE 1, 2, 3, or 4 on the charger credited for OPERABILITY. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. ---------- Verify each battery charger supplies ≥ 400 amps for Batteries A and B and ≥ 300 amps for Batteries C and D at ≥ 125 V for ≥ 8 hours.	18 months
SR 3.8.4.7	----------NOTES---------- 1. The battery performance discharge test or 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. 2. This Surveillance shall not be performed in MODE 1, 2, 3, or 4. ---------- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.8	----------NOTE---------- This Surveillance shall not be performed in MODE 1, 2, 3, or 4. ----------	
	Verify battery capacity is ≥ 80% (low specific gravity cells) or ≥ 90% (AT&T) of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	60 months AND 12 months when battery shows degradation or has reached 85% of the expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating