

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.3	<p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 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. <p style="text-align: center;">-----</p> <p>Verify each DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 5580 kW and ≤ 6201 kW.</p>	31 days
SR 3.8.1.4	Verify each fuel oil transfer pump starts on low level in the associated day tank standpipe.	31 days
SR 3.8.1.5	Check for and remove accumulated water from each day tank.	31 days
SR 3.8.1.6	Verify each fuel oil transfer system operates to transfer fuel oil from the storage tank to the day tank.	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.7	<p>-----NOTE----- All DG starts may be preceded by an engine prelube period. -----</p> <p>Verify each DG starts from standby condition and achieves in ≤ 12 seconds, voltage ≥ 3740 V and ≤ 4320 V, and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.</p>	184 days
SR 3.8.1.8	Not Used.	
SR 3.8.1.9	Not Used.	
SR 3.8.1.10	Verify each DG operating at a power factor ≤ 0.9 and ≥ 0.8 does not trip and voltage is maintained ≤ 4784 V and frequency is maintained ≤ 65.4 Hz during and following a load rejection of ≥ 5580 kW and ≤ 6201 kW.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.11</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not normally be performed in MODE 1 or 2. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. <p>-----</p> <p>Verify on an actual or simulated loss of offsite power signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. energizes permanently connected loads in ≤ 12 seconds, 2. energizes auto-connected shutdown loads through the shutdown sequencer, 3. maintains steady state voltage ≥ 3740 V and ≤ 4320 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. 	<p>18 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.12</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by a prelube period. 2. This Surveillance shall not normally be performed in MODE 1 or 2. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. <p>-----</p> <p>Verify on an actual or simulated Engineered Safety Feature (ESF) actuation signal each DG auto-starts from standby condition and:</p> <ol style="list-style-type: none"> a. In ≤ 12 seconds after auto-start and during tests, achieves voltage ≥ 3740 V and ≤ 4320 V; b. In ≤ 12 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 auto-connected and energized through the LOCA sequencer from the offsite power system. 	<p>18 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.13	Verify each DG's automatic trips are 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. Low lube oil pressure; d. High crankcase pressure; e. Start failure relay; and f. High jacket coolant temperature.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.14</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. The DG may be loaded to ≥ 5580 kW and ≤ 6201 kW for the entire test period, if auto-connected loads are less than 6201 kW. <p style="text-align: center;">-----</p> <p>Verify each DG operating at a power factor ≤ 0.9 and ≥ 0.8 operates for ≥ 24 hours:</p> <ol style="list-style-type: none"> a. For ≥ 2 hours loaded ≥ 6600 kW and ≤ 6821 kW; and b. For the remaining hours of the test loaded ≥ 5580 kW and ≤ 6201 kW. 	<p>18 months</p>
<p>SR 3.8.1.15</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 2 hours loaded ≥ 5580 kW and ≤ 6201 kW. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. <p style="text-align: center;">-----</p> <p>Verify each DG starts and achieves, in ≤ 12 seconds, voltage ≥ 3740 V, and ≤ 4320 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.</p>	<p>18 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.16</p> <p>-----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.</p> <p>-----</p> <p>Verify each DG:</p> <ul style="list-style-type: none"> 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. 	<p>18 months</p>
<p>SR 3.8.1.17</p> <p>-----NOTE----- This Surveillance shall not normally be performed in MODE 1 or 2. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.</p> <p>-----</p> <p>Verify, with a DG operating in test mode and connected to its bus, an actual or simulated Safety Injection signal overrides the test mode by:</p> <ul style="list-style-type: none"> a. Returning DG to ready-to-load operation; and b. Automatically energizing the emergency load from offsite power. 	<p>18 months</p>

(continued)

SURVEILLANCE REQUIREMENT (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.18</p> <p style="text-align: center;">-----NOTE-----</p> <p>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.</p> <p>-----</p> <p>Verify interval between each sequenced load block is within $\pm 10\%$ of design interval for each LOCA and shutdown sequence timer.</p>	<p>18 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.19</p> <p style="text-align: center;">-----NOTES-----</p> <ol style="list-style-type: none"> 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not normally be performed in MODE 1 or 2. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. <p>-----</p> <p>Verify on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated Safety Injection signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: <ol style="list-style-type: none"> 1. energizes permanently connected loads in ≤ 12 seconds, 2. energizes auto-connected emergency loads through load sequencer, 3. achieves steady state voltage ≥ 3740 V and ≤ 4320 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. 	<p>18 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.20</p> <p>-----NOTE----- All DG starts may be preceded by an engine prelube period.</p> <p>-----</p> <p>Verify when started simultaneously from standby condition, each DG achieves, in ≤ 12 seconds, voltage ≥ 3740 V and ≤ 4320 V, and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.</p>	<p>10 years</p>
<p>SR 3.8.1.21</p> <p>-----NOTE----- The continuity check may be excluded from the actuation logic test.</p> <p>-----</p> <p>Perform ACTUATION LOGIC TEST for each train of the load shedder and emergency load sequencer.</p>	<p>31 days on a STAGGERED TEST BASIS</p>