

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
SR 3.8.1.1    Verify correct breaker alignment and indicated power availability for each offsite circuit.	7 days
SR 3.8.1.2    -----NOTES----- 1. All EDG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. 2. A modified EDG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. ----- Verify each EDG starts and achieves steady state voltage $\geq 3873$ V and $\leq 4580$ V and frequency $\geq 58.8$ Hz and $\leq 61.2$ Hz.	31 days
SR 3.8.1.3    -----NOTES----- 1. EDG loadings may include gradual loading as recommended by the manufacturer. 2. Momentary transients below the load limit do not invalidate this test. 3. This Surveillance shall be conducted on only one EDG at a time. ----- Verify each EDG is synchronized and loaded and operates for $\geq 60$ minutes at a load $\geq 2500$ kW.	31 days

(continued)

**SURVEILLANCE REQUIREMENTS (continued)**

SURVEILLANCE		FREQUENCY
SR 3.8.1.4	Verify each day tank contains $\geq$ 210 gal of fuel oil.	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 automatically transfer fuel oil from storage tanks to the day tanks.	31 days
SR 3.8.1.7	<p>.....NOTE.....</p> <p>All EDG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading.</p> <p>.....</p> <p>Verify each EDG starts from standby condition and achieves:</p> <p>a. In <math>\leq</math> 10 seconds, voltage <math>\geq</math> 3873 V and frequency <math>\geq</math> 58.8 Hz; and</p> <p>b. Steady state voltage <math>\geq</math> 3873 V and <math>\leq</math> 4580 V and frequency <math>\geq</math> 58.8 Hz and <math>\leq</math> 61.2 Hz.</p>	184 days
SR 3.8.1.8	Verify each EDG 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.	18 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9    Verify each EDG does not trip and voltage is maintained <math>\leq 5267</math> V during and following a load rejection of <math>\geq 2850</math> kW.</p>	<p>18 months</p>
<p>SR 3.8.1.10    .....NOTE.....  All EDG starts may be preceded by an engine pre-lube period.  .....  Verify on simulated loss of offsite power signal:</p> <ul style="list-style-type: none"> <li>a. De-energization of emergency buses;</li> <li>b. Load shedding from emergency buses; and</li> <li>c. EDG auto-starts and: <ul style="list-style-type: none"> <li>1. energizes permanently connected loads in <math>\leq 10</math> seconds,</li> <li>2. energizes auto-connected shutdown loads through load sequencer,</li> <li>3. maintains steady state voltage <math>\geq 3873</math> V and <math>\leq 4580</math> V,</li> <li>4. maintains steady state frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz, and</li> <li>5. supplies permanently connected and auto-connected shutdown loads for <math>\geq 5</math> minutes.</li> </ul> </li> </ul>	<p>18 months</p>

(continued)

**SURVEILLANCE REQUIREMENTS (continued)**

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.11 -----NOTE-----                      All EDG starts may be preceded by an engine prelube period.                      -----</p> <p>Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each EDG auto-starts and:</p> <ul style="list-style-type: none"> <li>a. In <math>\leq 10</math> seconds after auto-start and during tests, achieves voltage <math>\geq 3873</math> V and frequency <math>\geq 58.8</math> Hz;</li> <li>b. Achieves steady state voltage <math>\geq 3873</math> V and <math>\leq 4580</math> V, and frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz; and</li> <li>c. Operates for <math>\geq 5</math> minutes.</li> </ul>	<p>18 months</p>
<p>SR 3.8.1.12 Verify each EDG's automatic trips are bypassed on an actual or simulated emergency start signal except:</p> <ul style="list-style-type: none"> <li>a. Engine overspeed;</li> <li>b. Generator differential current;</li> <li>c. Low lube oil pressure;</li> <li>d. Crankcase overpressure; and</li> <li>e. Failure to start.</li> </ul>	<p>18 months</p>

(continued)

**SURVEILLANCE REQUIREMENTS (continued)**

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.13 .....NOTE.....            Momentary transients outside the load range do not invalidate this test.            .....            Verify each EDG operates for <math>\geq 24</math> hours:            a. For all but the final <math>\geq 2</math> hours loaded <math>\geq 2500</math> kW and <math>\leq 2600</math> kW; and            b. For the final <math>\geq 2</math> hours of the test loaded <math>\geq 2800</math> kW and <math>\leq 2900</math> kW.</p>	<p>18 months</p>
<p>SR 3.8.1.14 .....NOTES.....            1. This Surveillance shall be performed within 5 minutes of shutting down the EDG after the EDG has operated <math>\geq 2</math> hours loaded <math>\geq 2500</math> kW or until operating temperatures have stabilized.            Momentary transients below the load limit do not invalidate this test.            2. All EDG starts may be preceded by an engine prelube period.            .....            Verify each EDG starts and achieves:            a. In <math>\leq 10</math> seconds, voltage <math>\geq 3873</math> V and frequency <math>\geq 58.8</math> Hz; and            b. Steady state voltage <math>\geq 3873</math> V and <math>\leq 4580</math> V and frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz.</p>	<p>18 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.17 -----NOTE-----            All EDG starts may be preceded by an engine            prelube period.            -----            Verify, on simulated loss of offsite power            signal in conjunction with an actual or            simulated ECCS initiation signal:</p> <ul style="list-style-type: none"> <li>a. De-energization of emergency buses;</li> <li>b. Load shedding from emergency buses; and</li> <li>c. EDG auto-starts and:               <ul style="list-style-type: none"> <li>1. energizes permanently connected loads in <math>\leq 10</math> seconds,</li> <li>2. energizes auto-connected emergency loads through load sequencer,</li> <li>3. achieves steady state voltage <math>\geq 3873</math> V and <math>\leq 4580</math> V,</li> <li>4. achieves steady state frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz, and</li> <li>5. supplies permanently connected and auto-connected emergency loads for <math>\geq 5</math> minutes.</li> </ul> </li> </ul>	<p>18 months</p>
<p>SR 3.8.1.18 -----NOTE-----            All EDG starts may be preceded by an engine            prelube period.            -----            Verify, when started simultaneously each            EDG achieves, in <math>\leq 10</math> seconds, frequency  <math>\geq 58.8</math> Hz.</p>	<p>10 years</p>