

#### 4.6 EMERGENCY POWER SYSTEM PERIODIC TESTS

Applicability: Applies to periodic testing and surveillance requirement of the emergency power system.

Objective: To verify that the emergency power system will respond promptly and properly when required.

Specification:

The following tests and surveillance shall be performed as stated:

##### 4.6.1 Diesel Generators

- a. Manually-initiate start of the diesel generator, followed by manual synchronization with other power sources and assumption of load by the diesel generator up to the name-plate rating (3000 kw). This test will be conducted every month on each diesel generator. Normal plant operation will not be effected.
- b. Automatically start and loading the emergency diesel generator in accordance with Specification 4.5.1.1.b/c including the following. This test will be conducted every refueling interval on each diesel generator.
  - (1) Verify that the diesel generator starts from ambient condition upon receipt of the ES signal and is ready to load in  $\leq 10$  seconds.
  - (2) Verify that the diesel block loads upon simulated loss of offsite power in  $\leq 30$  seconds.
  - (3) The diesel operates with the permanently connected and auto connected load for  $\geq 5$  minutes.
  - (4) The diesel engine does not trip when the generator breaker is opened while carrying emergency loads.
  - (5) The diesel generator block loads and operates for  $\geq 5$  minutes upon reclosure of the diesel generator breaker.
- c. Each diesel generator shall be given an inspection at least **every 24 months (with a 25% allowable grace period)** in accordance with **procedures prepared in conjunction with the applicable recommendations of the Fairbanks Morse Owners Group and those of the manufacturer** for this class of stand-by service.

##### 4.6.2 Station Batteries

- a. The voltage, specific gravity, and liquid level of each cell will be measured and recorded:
  - (1) every 92 days
  - (2) once within 24 hours after a battery discharge  $< 105$  V
  - (3) once within 24 hours after a battery overcharge  $> 150$  V
  - (4) If any cell parameters are not met, measure and record the parameters on each connected cell every 7 days thereafter until all battery parameters are met.
- b. The voltage and specific gravity of a pilot cell will be measured and recorded weekly. If any pilot cell parameters are not met, perform surveillance 4.6.2.a on each connected cell within 24 hours and every 7 days thereafter until all battery parameters are met.
- c. Each time data is recorded, new data shall be compared with old to detect signs of abuse or deterioration.