

Standard EC.02.05.07

The hospital inspects, tests, and maintains emergency power systems.

Note: *This standard does not require hospitals to have the types of emergency power equipment discussed below. However, if these types of equipment exist within the building, then the following maintenance, testing, and inspection requirements apply.*

Rationale for EC.02.05.07

Emergency electrical power supply systems may fail during a power disruption, leaving the hospital unable to deliver safe care, treatment, and services to patients. Testing these systems for sufficient lengths of time at regular frequencies increases the likelihood of detecting reliability problems and reduces the risk of losing this critical resource when it is most needed.

Elements of Performance for EC.02.05.07

1. At 30-day intervals, the hospital performs a functional test of battery-powered lights required for egress for a minimum duration of 30 seconds. The completion date of the tests is documented.
2. Every 12 months, the hospital either performs a functional test of battery-powered lights required for egress for a duration of 1½ hours; or the hospital replaces all batteries every 12 months and, during replacement, performs a random test of 10% of all batteries for 1½ hours. The completion date of the tests is documented.
3. Every quarter, the hospital performs a functional test of stored emergency power supply systems (SEPSS) for 5 minutes or as specified for its class (whichever is less). The hospital performs an annual test at full load for 60% of the full duration of its class. The completion dates of the tests are documented.

Note 1: *Non-SEPSS battery backup emergency power systems that the hospital has determined to be critical for operations during a power failure (for example, laboratory equipment or electronic medical records) should be properly tested and maintained in accordance with manufacturer's recommendations.*

Note 2: *SEPSS are intended to automatically supply illumination or power to critical areas and equipment essential for safety to human life. Included are systems that supply emergency power for such functions as illumination for safe exiting, ventilation where it is essential to maintain life, fire detection and alarm systems, public safety communications systems, and processes where the current interruption would produce serious life safety or health hazards to patients, the public, or staff.*

Note 3: *Class defines the minimum time for which the SEPSS is designed to operate at its rated load without being recharged. For additional guidance, see*

NFPA 111, Standard on Stored Electrical Energy Emergency and Standby Power Systems, 1996 edition.

4. Twelve times a year, at intervals of not less than 20 days and not more than 40 days, the hospital tests each emergency generator for at least 30 continuous minutes. The completion dates of the tests are documented.
5. The emergency generator tests are conducted with a dynamic load that is at least 30% of the nameplate rating of the generator or meets the manufacturer's recommended prime movers' exhaust gas temperature. If the hospital does not meet either the 30% of nameplate rating or the recommended exhaust gas temperature during any test in EC.02.05.07, EP 4, then it must test each emergency generator once every 12 months using supplemental (dynamic or static) loads of 25% of nameplate rating for 30 minutes, followed by 50% of nameplate rating for 30 minutes, followed by 75% of nameplate rating for 60 minutes, for a total of 2 continuous hours.
6. Twelve times a year, at intervals of not less than 20 days and not more than 40 days, the hospital tests all automatic transfer switches. The completion date of the tests is documented.
7. At least once every 36 months, hospitals with a generator providing emergency power for the services listed in EC.02.05.03, EPs 5 and 6, test each emergency generator for a minimum of 4 continuous hours. The completion date of the tests is documented.

Note: *For additional guidance, see NFPA 110, 2005 edition, Standard for Emergency & Standby Power Systems.*

8. The 36-month emergency generator test uses a dynamic or static load that is at least 30% of the nameplate rating of the generator or meets the manufacturer's recommended prime movers' exhaust gas temperature.
9. If a required emergency power system test fails, the hospital implements measures to protect patients, visitors, and staff until necessary repairs or corrections are completed.
10. If a required emergency power system test fails, the hospital performs a retest after making the necessary repairs or corrections.