White Paper
Skilled Nursing Facility Generator Requirements

The Ohio Health Care Association and Ohio Centers for Developmental Disabilities promotes and encourages all member facilities proactive endeavors to establish environments and cultures of safety for their residents and staff.

Background:
Generators are required for skilled nursing facilities providing life support services such as ventilator care. Generators used as the backup power source for other LSC required systems or equipment, such as emergency lighting, exit lights, fire alarm system as well as for normal operating power is not required but used in this fashion causes the generator to be considered a “required” generator which means that the generator must be installed, tested, and maintained in accordance with the applicable NFPA standards.

Over the past several years’ skilled nursing homes have been cited with increasing frequency for failing to conduct the required weekly inspections and monthly exercising of the generator. The citations are normally at K-144. Also common are deficiencies related to the use and placement of the required annunciator panel which is cited at K-145.

Requirements:
NFPA 101, Sec. 7.9.2.3 requires that emergency generators be installed, tested and maintained in accordance with NFPA 110, Standard for Emergency and Standby Power Systems. SNFs that fall under Chapter 18 of NFPA 101 and are equipped with or in which residents require the use of life-support systems (ventilators) must also meet the maintenance and testing provisions of the 1999 edition of NFPA 99, Standard for Health Care Facilities [see NFPA 101, Sections 18.2.9.2, 18.2.10.2, 18.5.1.2 and 18.5.1.3].

Provisions dealing with maintenance and testing of emergency generators can be found in NFPA 99(99), Sec. 3-4.4. This section starts out by referencing NFPA 110. The NFPA 99 first treats emergency generators as part of an essential electrical system (EES), which is defined as, “A system comprised of alternate sources of power and all connected distribution systems and ancillary equipment, designed to ensure continuity of electrical power to designated areas and functions of a health care facility during disruption of normal power sources, and also to minimize disruption within the internal wiring system.”

The NFPA also requires that the emergency load from the generator be picked up within 10 seconds from the generator be initiated NFPA 101, Sec. 7.9.1.2

According to OAC 1301:7-7-34(A)(4) (OFC 3401.4) - OAC 1301:7-7-01(E)(1)(a) (OFC 105.1.1) A permit shall be obtained from the state fire marshal when such permits are not issued by the local fire code official for the removal, installation, abandonment, altering or placement temporarily out of service any stationary flammable or combustible liquid storage tank or any line or dispensing device connected thereto including emergency generators. See Facts and Installation: Installation of flammable and combustible Aboveground Storage Tanks

Maintenance and testing

Maintenance and testing is critical for the continued reliability of the emergency generator and must be performed in accordance with manufacturer’s recommendations and the minimum requirements of NFPA 110. Each SNF is expected to have at least two sets of instruction manuals for all major generator components. One set should be kept in a secure, convenient
location near the equipment. The other set should be kept in a different secure location. There should also be special tools and testing devices necessary for routine maintenance available for use when needed.

**Weekly visual inspections**

SNFs must visually inspect their emergency generators weekly [see NFPA 110(99), Sec. 6-4.1; NFPA 110(02), Sec. 8.4.1]. At a minimum, this inspection should include a check and document the following:

1. Fuel (check main and day tank fuel supply levels; day tank float switch; piping, hoses and connectors; operating fuel pressure; and for any obstructions to tank vents and overflow piping)
2. Oil (check for proper oil level and oil operating pressure; lube oil heater)
3. Cooling system (check coolant level, water pump(s), jacket water heater, belts, hoses, fan)
4. Exhaust system (check drain condensate trap and for possible leakage)
5. Battery system
6. Electrical components

**Monthly Exercise testing**

SNFs must exercise their emergency generators under load at least monthly [see NFPA 110(99), Sec. 6-4.1; NFPA 110(02), Sec. 8.4.1]. There are a couple of common ways to comply with this. Normally the generator is exercised for a minimum of 30 minutes (no counting warm up or cool down time) under operating temperature conditions and at not less than 30 percent of the generator’s nameplate kW rating.

An alternate method is provided for generators that do not meet the normal testing requirements above would be to exercise monthly with the available load and exercised annually have a load bank test which will provide a supplemental load on the generator.

**DOCUMENT your inspections and tests**

A written record of generator inspections, tests, exercising, operation and repairs must be maintained on the premises and be available for review by surveyors and fire inspector on request. This record must, at a minimum, include: the date of the report, name(s) of the person(s) providing the service, identification of unsatisfactory conditions and corrective action taken (including parts replaced), and any testing of repairs recommended.

**Generator Remote Annunciator Panel**

Each generator shall have remote annunciator panel and will inform the SNF staff that the generator is operating with additional information based on number of warning lamps such as fuel level, power source, oil level, battery charger issues etc. The remote Annunciator panel shall be located in manned location such as a nursing station and be in good operating condition at all times.