**Section 518.2230 Electrical Requirements**

a) General Requirements

1) All materials including equipment, conductors, controls, and signaling devices shall be installed in compliance with applicable sections of the NFPA 70, including Article 517, and as necessary to provide a complete electrical system.

2) All electrical installations, including alarm, nurses' call and communication systems, shall be tested to demonstrate that the equipment installation and operation conforms to this Part.

b) Switchboards and Power Panels

 These items shall comply with NFPA 70. The main switchboard shall be located in an area separate from plumbing and mechanical equipment and be accessible only to authorized persons.

c) Panelboards. Panelboards serving lighting and appliance circuits shall be located on the same floor as the circuits they serve. This requirement does not apply to the life safety system.

d) Lighting

1) All spaces occupied by people, machinery, and equipment within buildings, approaches to and through exits from buildings, and parking lots shall have lighting.

2) Treatment rooms shall have general lighting in addition to local lighting provided by special lighting units at the treatment tables. The general lighting shall provide a minimum of 100 footcandles at the treatment tables. Each fixed special lighting unit at the tables shall be connected to an independent circuit.

e) Receptacles (Convenience Outlets)

1) Each treatment room shall have at least two receptacles installed on each wall or eight receptacles in diversified locations per room.

2) Each observation/treatment room shall have duplex grounding type receptacles as specified in Article 517-18 and Article 517-19 of NFPA 70. The mounting height of these receptacles shall be 22 to 42 inches above the finished floor.

3) Duplex receptacles for general use shall be installed approximately 50'0" apart in all corridors and within 25'0" of the ends of corridors. These receptacles shall be circuited to the emergency system.

f) At least two x-ray film illuminators shall be installed in each treatment room and in the x-ray viewing room of the radiology department. More than two units shall be installed as needed.

g) Nurses' Calling System

1) Each observation/treatment room shall be served by at least one calling station. Calls shall register with nursing staff and shall activate a visible signal in the corridor at the observation/treatment room door. In multicorridor nursing units, additional visible signals shall be installed at corridor intersections. In rooms containing two or more calling stations, indicating lights shall be provided at each station. Nurses' calling systems that provide two-way voice communications shall be equipped with an indicating light at each calling station, which will remain lighted as long as the voice circuit is operating.

2) Nurse call duty stations shall be installed in the clean work room, soiled work room, medicine preparation room, nourishment station and nurses' lounge of the unit.

3) A nurses' call emergency station shall be provided for patients' use at each patient's toilet and at the shower. These stations are to be the pull-cord type with the cord reaching within 6 inches of the floor. The cords are to be located within reach of a patient.

4) In areas where patients are under constant surveillance, the nurses' calling system may be limited to a bedside station that will actuate a signal that can be readily seen by the other nurses.

5) A communications system that may be used by nurses to summon assistance shall be provided in each treatment room.

h) Communication System

1) A loud speaker-type sound system shall be provided throughout the facility to allow for announcements, such as paging of personnel and other necessary audio functions.

2) Speakers shall be located in all areas to allow personnel to adequately hear all audio outputs from the system.

3) The system shall be used as the communication link for emergency announcements, i.e., code blue, impending disasters and others. The audio line at the last speaker in the audio circuits shall be electrically supervised against opens and grounds. The supervision shall be indicated at a building location that is staffed 24 hours a day.

i) Emergency Electric Service

1) To provide electricity during an interruption of the normal electric supply, an emergency source of electricity shall be provided and connected to the life safety branch, the critical branch, and the equipment branch for lighting and power as established in NFPA 70-517.

2) The source of this emergency electric service shall be as follows:

A) An emergency generating set when the normal service is supplied by one or more central station transmission lines.

B) An emergency generating set or a central station transmission line when the normal electric supply is generated on the premises.

3) Emergency Generating Set

A) The required emergency generating set, including the prime mover and generator, shall be located on the premises. Where stored fuel is required for the emergency generator operations, the storage capacity shall be sufficient for not less than 24 hours continuous operation.

B) The emergency generator set may be used during periods of high energy demands on local utilities. In the event of an outage of the normal power source, the normal loads shall immediately be removed from the emergency generator set, and the life safety branch, the critical branch, and the equipment branch shall be connected to the generator.

(Source: Amended at 33 Ill. Reg. 8317, effective June 4, 2009)