449.3.12 Fire alarm systems. Reference *The Guidelines* for other requirements.

449.3.12.1 Fire alarm systems. A fire alarm annunciator panel shall be provided at a 24-hour monitored location. The panel shall indicate visually the zone of actuation of the alarm, and there shall be a system trouble signal indicator. Each smoke compartment shall be annunciated as a separate fire alarm zone. A fire alarm system zone shall not include rooms or spaces in other smoke compartments. A fire alarm zone location map to quickly locate alarm condition shall be provided at the fire alarm control panel.

449.3.12.2 In all inpatient care rooms, spaces and areas, including sleeping, treatment, diagnostic, and therapeutic, the private operating mode as permitted and described in NFPA 72, *National Fire Alarm and Signaling Code*, shall be required. Only the attendants and other personnel required to evacuate occupants from a zone, area, room, floor, or building shall be required to be notified.

449.3.12.3 The disconnecting device or circuit breaker for the fire alarm control unit shall be clearly identified and secured from unauthorized operation.

449.3.13 Nurse call system. Reference *The Guidelines* for other requirements.

449.3.13.1 In addition to the requirements of radiofrequency systems described in *The Guidelines*, wireless-type nurse call systems shall be permitted if they have been tested and approved by a national recognized testing laboratory (NRTL) to meet the requirements of UL 1069, 7th edition, Section 49, Wireless Systems published October 12, 2007 as referenced in Chapter 35 of this code.

449.3.13.2 In addition to the areas required by *The Guidelines*, an emergency resuscitation alarm (Code Blue) calling station shall be provided for staff use in each operating and cesarean delivery room.

449.3.13.3 An emergency staff assistance station shall be located within each psychiatric seclusion room and shall be of hands-free operation.

449.3.14 Emergency electric service. Reference *The Guidelines* for other requirements.

449.3.14.1 A Type 1 essential electrical system shall be provided in all hospitals as described in NFPA 99, *Health Care Facilities*. The emergency power for this system shall meet the requirements of a Level 1, Type 10, Class 48 generator as described in NFPA 110, *Standard for Emergency and Standby Power Systems*.

449.3.14.2 In new facility construction, the normal main service equipment shall be separated from the emergency distribution equipment by locating it in a separate room. Transfer switches shall be considered emergency distribution equipment for this purpose.

449.3.14.3 There shall be a generator remote alarm annunciator in accordance with the requirements of NFPA 110 located at a designated on-site 24-hour staffed location.

449.3.14.4 There shall be illumination of the means of egress in accordance with NFPA 101 and designed for automatic dusk-to-dawn operation. Such illumination shall continue to the public way or to a safe area(s) located at a minimum of 30 feet (9.144 m) from the building and large enough to accommodate the required occupant load of the exit discharge.

449.3.14.5 A minimum of one elevator per bank serving any patient use floor shall be connected to the equipment branch of the essential electric system and arranged for manual or automatic operation during loss of normal power.

449.3.14.6 If a day tank is provided, it shall be equipped with a dedicated low-level fuel alarm and a manual pump. The alarm shall be located at the generator remote alarm annunciator as described in Section 449.3.14.3.

449.3.14.7 Outpatient surgery facilities, cardiac catheterization facilities, or pain management facilities that utilize intravenous (IV) drip sedation located in a separate building or on another campus shall have a Type 1 essential electrical system in compliance with NFPA 99, *Health Care Facilities*. The emergency power for this system shall meet the requirements of a Level 1, Type 10, Class 8 generator as described in NFPA 110, *Standard for Emergency and Standby Power Systems*.

449.3.14.8 The generator remote manual stop (sometimes called the "generator emergency stop") shall be switchable and tamper resistant. It shall be located outside the housing of the generator, adjacent to the opening of the generator enclosure or to the door to the generator room, and viewable from the generator location.

449.3.15 Lightning protection.

449.3.15.1 A lightning protection system shall be provided for all new buildings and additions in accordance with NFPA 780, *Installation of Lightning Protection Systems*.

449.3.15.2 Where additions are constructed to existing buildings, the existing building's lightning protection system, if connected to the new lightning protection system, shall be inspected and brought into compliance with current standards.

449.3.15.3 A lightning protection system shall be installed on all buildings in which outpatient surgical procedures, cardiac catherization procedures, or pain management procedures that utilize I.V. drip sedation are provided.

449.3.15.4 There shall be surge protection for all normal and emergency electrical services.

449.3.15.5 Additional surge protection shall be provided for all low voltage and power connections to all electronic equipment in critical care areas and life safety systems and equipment such as fire alarm, nurse

tor remote alarm annunciator as described in Section 450.3.18.3

450.3.18.7 The generator remote manual stop (sometimes called the "generator emergency stop") shall be tamper resistant. It shall be located outside of the housing of the generator, adjacent to the opening of the generator enclosure or to the door to the generator room, and viewable from the generator.

450.3.19 Lightning protection.

450.3.19.1 A lightning protection system shall be provided for all new buildings and additions in accordance with NFPA 780, Installation of Lightning Protection Systems.

450.3.19.2 Where additions are constructed to existing buildings, the existing building's lightning protection system, if connected to the new lightning protection system, shall be inspected and brought into compliance with current standards.

450.3.19.3 There shall be surge protection for all normal and emergency electrical services.

450.3.19.4 Additional surge protection shall be provided for all low-voltage and power connections to all electronic equipment in critical care areas and life safety systems and equipment such as fire alarm, nurse call and other critical systems. Protection shall be in accordance with appropriate IEEE Standards for the type of equipment protected.

450.3.19.5 All low-voltage system main or branch circuits entering or exiting the structure shall have surge suppressors installed for each pair of conductors and shall have visual indication for protector failure to the maximum extent feasible.

450.4 Physical plant requirements for disaster preparedness of new nursing home construction.

450.4.1 Definitions. The following definitions shall apply specifically to this section:

450.4.1.1 NEW FACILITY. A nursing home which has not received a Stage II preliminary plan approval from the Agency for Health Care Administration pursuant to this section.

450.4.1.2 NET SQUARE FOOTAGE. The clear floor space of an area excluding cabinetry and other fixed furniture or equipment.

450.4.1.3 DURING AND IMMEDIATELY FOLLOWING. A period of 72 hours following the loss of normal support utilities to the facility.

450.4.1.4 OCCUPIED RESIDENT AREA(S). The location of residents inside of the new facility or in the addition of a wing or floor to an existing facility during and immediately following a disaster. If these residents are to be relocated into an area of the existing facility during and immediately following a disaster, then for these purposes, that location will be defined as the "occupied resident area."

450.4.1.5 RESIDENT SUPPORT AREA(S). The area(s) required to ensure the health, safety and well-being of residents during and immediately following a disaster, such as a staff work area, clean and soiled utility areas, food preparation area and other areas as determined by the facility to be kept operational during and immediately following a disaster.

450.4.1.6 ON SITE. Either in, immediately adjacent to, or on the campus of the facility, or addition of a wing or floor to an existing facility.

450.4.1.7 RESIDENTS SERVED. The number of residents as determined by the facility that will be served in the occupied resident area(s) during and immediately following a disaster.

450.4.2 Disaster preparedness construction standards. The following construction standards are in addition to the physical plant requirements described in Sections 450.2 through 450.3. These minimum standards are intended to increase the ability of the facility to be structurally capable of serving as a shelter for residents, staff and the family of residents and staff and equipped to be self-supporting during and immediately following a disaster:

450.4.2.1 Space standards.

450.4.2.1.1 For planning purposes, each new facility shall provide a minimum of 30 net square feet (2.79 m^2) per resident served in the occupied resident area(s). The number of residents to be served is to be determined by the facility administration.

450.4.2.1.2 As determined by the facility, space for administrative and support activities shall be provided for use by facility staff to allow for care of residents in the occupied resident area(s).

450.4.2.1.3 As determined by the facility, space shall be provided for all staff and family members of residents and staff.

450.4.2.2 Site standards.

450.4.2.2.1 Except as permitted by Section 1612 of this code, the lowest floor of all new facilities shall be elevated to the base flood elevation as defined in Section 1612 of this code, plus 2 feet (607 mm), or to the height of hurricane Category 3 (Saffir-Simpson scale) surge inundation elevation, as described by the Sea, Lake, and Overland Surge (SLOSH) from Hurricanes model developed by the Federal Emergency Management Agency (FEMA), United States Army Corps of Engineers (USACE), and the National Weather Service (NWS), whichever is higher.

450.4.2.2.2 For all existing facilities, the lowest floor elevations of all additions, and all resident support areas including food service, and all resident support utilities, including mechanical, and electrical (except fuel storage as noted in Section 450.4.2.9.3 of this code) for the additions shall be at or above the elevation of the existing building, if the existing building was designed and constructed to comply with either the site standards of Section

room. The operation of the switch shall be labeled to indicate the intended function.

453.17.7 Lightning. All facilities in high lightning risk areas shall be evaluated using the Risk Assessment Guide in NFPA 780 and other standards which address lightning protection, and shall be protected accordingly.

453.17.8 Ground fault interrupter (GFI) receptacles. GFI receptacles shall be installed as required by NFPA 70 of Chapter 27 and in the following locations:

1. All elementary special needs, prekindergarten, and kindergarten classroom receptacles.
2. All building entry vestibule receptacles.
3. All mechanical, boiler and electrical room receptacles.

453.18 Assembly occupancies in public educational facilities.

453.18.1 Occupant capacity for egress shall be in accordance with Table 1004.1.2 except as follows:

453.18.1.1 Dressing rooms. Dressing rooms at 20 net square feet (1.86 m^2) per person.

453.18.1.2 Gymnasium. The number of fixed and telescopic bench-type bleacher seats –plus the main court area at 15 gross square feet (1.4 m^2) per person, plus locker rooms at 5 net square feet (0.5 m^2) per person.

453.18.1.3 Classrooms and labs. If spaces are combined through the use of folding partitions, the capacity and exiting shall be based on the capacity of all the spaces joined.

453.18.1.4 Small group areas in media centers. Small group room or area (view and preview) in media centers at 5 net square feet (0.5 m^2) per person.

453.18.1.5 Closed circuit television production, distribution, and control. The main floor area at 15 net square feet (1.4 m^2) per person.

453.18.1.6 Interior courtyards. The interior courtyard area at 15 gross square feet (1.4 m^2) per person. Raised, dedicated landscape areas may be deducted.

453.19 Shade and green houses.

453.19.1 General. Shade/green houses shall be of Type I or II construction (metal frame) capable of withstanding the appropriate wind load.

453.19.2 Unrestricted exiting. The location of the shade/green house shall not hinder exiting from new and/or existing structures.

453.19.3 Required doors. A minimum of two doors remotely located shall be provided. Doors shall be side hinged and shall swing in the direction of egress.

453.19.4 Accessibility. Green houses shall meet accessibility requirements. The accessible walkway shall be connected to doors leading to an accessible route to the permanent structure.

453.19.5 Shade cloth. Shade cloth shall be tear-away fabric securely fastened to the structural frame.

453.19.6 Fire extinguisher. A minimum of one Type 2A-10B:C fire extinguisher shall be provided per shade/green house.

453.19.7 Fire alarm. Fire alarm pull stations shall be located within 200 feet (60 960 mm) of any shade or green house. Fire alarm horns mounted on a permanent building must be audible inside the shade/green house.

453.19.8 Space heaters. Space heaters, when provided, shall be mounted at least 6 feet 8 inches (2031 mm) AFF.

453.20 Storage.

453.20.1 General storage. Storage rooms and closets shall not be located over or under exit stairs and ramps whether interior or exterior. General storage space(s) shall be included in every educational facility for the bulk storage of materials, supplies, equipment, and books. Storage rooms shall be separated from mechanical and electrical spaces. Storage spaces shall be mechanically ventilated and conditioned as appropriate for the type of materials to be stored. Sinks located in general storage rooms shall not be used for custodial services.

453.20.2 Custodial work areas and storage. Provide custodial work areas with well supported shelving for supplies, cleaning, and sanitation materials and an office area including male/female lockers and toilet facilities.

453.20.3 Custodial closets and storage. Custodial closets shall be provided with storage shelving and a service sink supplied with both hot and cold water. They shall be located to serve each instructional floor and wing regardless of floor area, and other areas such as stage, kitchen, gym, auditorium, clinic, offices and shops. The travel distance to the nearest custodial closet shall not exceed 150 feet (45.72 m).

453.20.4 Chemical and hazardous materials storage. In addition to the requirements of the *Florida Building Code* and the *Florida Fire Prevention Code* as adopted by the State Fire Marshal for separation and protection, chemical and hazardous storage facilities shall also include:

453.20.4.1 Chemical storage. Doors shall be lockable from the outside and operable at all times from the inside. Rooms shall be well illuminated. Cabinets shall have shelves with a $^1/_2$ inch (12.7 mm) lip on the front and shall be constructed of noncorrosive material.

453.20.4.2 Hazardous materials storage. Buildings and/or rooms used for the storage, handling and disposal of flammable, poisonous, or hazardous materials or liquids, and equipment powered by internal combustion engines and their fuels shall be separated from adjacent spaces by 1-hour fire-rated assemblies. These requirements also apply to completely detached buildings within 60 feet (18 288 mm) of student-occupied facilities. Doors shall have a C Label and open directly to the exterior. Storage buildings and/or rooms shall be mechanically ventilated. Electrical fixtures, switches, heat detectors and outlets installed in flammable storage rooms shall be explosion proof.

453.20.5 Custodial receiving. Custodial receiving where chemicals that are dangerous to human tissue are stored,