11. PSYCHIATRIC HOSPITAL

In this edition appendix material appears in the main body of the document; however, it remains advisory only.

11.1 General Conditions

11.1.A. Applicability
This section covers a psychiatric hospital intended for the care and treatment of inpatients and outpatients who do not require acute medical/surgical care services. See Section 7.6 for psychiatric units within acute care hospitals.

11.1.B. Functions
~~(~~See Section 1.1.F.~~)~~

11.1.C. Parking
In the absence of a formal parking study, the facility shall provide at least one space for each employee normally present during one weekday shift plus one space for every five beds, or a total of 1.5 per patient. This ratio may be reduced when justified by availability of convenient public transportation and public parking. Additional parking may be required for outpatients or other services.

11.1.D. Swing Beds
Occupancy of a group of rooms within the facility may be changed to accommodate different patient groups based on age, sex, security level, or treatment programs.

11.1.E. Services
~~When~~ Where the psychiatric facility is part of another facility, services such as dietary, storage, pharmacy, and laundry should be shared insofar as practical. In some cases, all ancillary service requirements will be met by the principal facility. In other cases, programmatic concerns and requirements may dictate separate services.

*11.1.F. Environment of Care
The facility ~~should~~ shall provide a therapeutic environment appropriate for the planned treatment programs. The design shall provide the level of ~~S~~security appropriate for the planned treatment programs ~~shall be provided~~.

Special design considerations for injury and suicide prevention shall be given to the following elements:

~~The unit should be characterized by a feeling of openness, with emphasis on natural light and exterior view. Interior finishes, lighting, and furnishings should suggest a residential rather than an institutional setting. These should, however, conform with applicable fire safety codes. Security and safety devices should not be presented in a manner to attract or challenge tampering by patients. Design, finishes, and furnishings should be such as to minimize the opportunity for residents to cause injury to themselves or others. Special design considerations for injury and suicide prevention shall be given to the following elements:~~

~~? Visual control of nursing units and passive activity areas such as dayrooms and outdoor areas.~~

~~? Hidden alcoves or enclosed spaces.~~

~~? Areas secured from patients such as staff areas and mechanical space.~~

11.1.F1. Door closers, latch handles, and hinges. Door closers are to be avoided unless required. Door closer devices, if required on the patient room door, shall be mounted on the public side of the door rather than the private patient side of the door. Ideally, the door closer (if required) should be within view of a nurse or staff workstation. Door hinges shall be designed to minimize points for hanging (i.e., cut hinge type) and to be consistent with the level of care for the patient. Door lever handles shall point downward when in the latched position. All hardware shall have tamper-resistant fasteners.

11.1. F2. Clothing storage. Clothing rods or hooks, if present, shall be designed to minimize the opportunity for residents to cause injury. Furniture shall be constructed such that it can withstand physical abuse. Drawer pulls shall be of the recessed type to eliminate the possibility of becoming a tie-off point.
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11.1.F3. Door swings to private patient bathrooms. Door swings for bathrooms or shower areas shall swing out to allow for staff emergency access. The ceiling shall be of the tamper-resistive type or of sufficient height to prevent patient access. Ceiling systems of a non-secured (non-clipped down) lay-in ceiling tile design are not permitted. Any plumbing, piping, ductwork, or other potentially hazardous elements shall be concealed above a ceiling. Air distribution devices, lighting fixtures, sprinkler heads, and other appurtenances shall be of the tamper-resistant type.

11.1.F4. Shower, bath, toilet, and sink plumbing fixtures, hardware, and accessories, including grab bars and toilet paper holders. ADA- or ANSI-compliant grab bars are required in 10 percent of the patient private/semi-private toilet rooms. The remaining rooms are not required to have grab bars. Grab bars in patient toilet rooms for fully ambulatory patients shall be removeable. Towel bars are not permitted. Shower curtain rods are not permitted. Shower heads shall be of the flush mounted design to minimize hanging appendages. Lever handles are not permitted.
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~~?~~ ***11.1.F5.** Windows, including interior and exterior glazing. All glazing, borrow lights, and glass mirrors shall be fabricated with laminated safety glass or shall be protected by polycarbonate, laminate, or safety screens.

11.1.F6. Light fixtures, electrical outlets, electrical appliances, nurse call systems, and staff emergency assistance systems. Electrical receptacles in patient rooms shall not allow for unauthorized use or shall be protected with a ground fault circuit interrupter. Staff response call systems shall be low voltage, current limited, and shall not allow for unauthorized use.

~~?~~ **11.1.F7.** Ceilings, ventilation grilles, and access panels in patient bedrooms and bathrooms. Where acoustical ceilings are permitted by the functional program, they shall be of sufficient height or be secured to prevent patient access. In unsupervised patient areas, sprinkler heads shall be recessed or of a design to minimize patient access. Ceiling access panels and light fixtures shall be secured or shall be of sufficient height to prevent patient access. Ventilation grills shall be secured and have small perforations to eliminate their use as a tie-off point, or shall be of sufficient height to prevent patient access.

~~?~~ **11.1.F8.** Sprinkler heads and other protrusions.

~~?~~ **11.1.F9.** Fire extinguisher cabinets and fire alarm pull stations. They shall be located in staff areas or

otherwise secured if in patient-accessible locations.

11.2 General Psychiatric Nursing Unit

Each nursing unit shall include the following (see Section 1.3 for exceptions to standards where existing conditions make absolute compliance impractical).

11.2.A. Patient Rooms

Each patient room shall meet the following standards:

11.2.A1. Maximum room capacity shall be two patients.

11.2.A2. Patient room areas, exclusive of toilet rooms, closets, lockers, wardrobes, alcoves, or vestibules, shall be at least 100 square feet (9.29 square meters) for single-bed rooms and 80 square feet (7.43 square meters) per bed for multiple-bed rooms. Minor encroachments, including columns and lavatories, *that do not interfere with functions* may be ignored when determining space requirements for patient rooms. The areas noted herein are intended as ~~recognized~~ minimums and do not prohibit use of larger rooms where required ~~for needs and functions~~ by the functional program.

Security rooms may be included if required by the ~~treatment~~functional program. Security rooms shall be single-bed rooms designed to minimize potential for escape, hiding, injury to self or others, or suicide. Access to toilets, showers, and wardrobes shall be restricted. Security rooms may be centralized on one unit or decentralized among units.

11.2.A3. Each patient room shall have a window in accordance with Section 7.29.A10.~~Windows or vents in psychiatric units shall be arranged and located so that they can be opened from the inside to permit venting of combustion products and to permit any occupant direct access to fresh air in emergencies. The operation of operable windows shall be restricted. Where windows or vents require the use of tools or keys for operation, the tools or keys shall be located on the same floor in a prominent location accessible to staff. Windows in buildings designed with approved, engineered smoke-control systems may be fixed construction. Security glazing and/or other appropriate security features shall be used at all windows of the nursing unit and other patient activity and treatment areas to reduce the possibility of patient injury or escape.~~

11.2.A4. Each patient shall have access to a toilet room without having to enter the general corridor area. (This direct access requirement may be disregarded if it conflicts with the supervision of patients as required by the ~~treatment~~ functional program.)

One toilet room shall serve no more than four beds and no more than two patient rooms. The toilet room shall contain a water closet and a handwashing station, and the door ~~should~~ shall swing outward or be double acting.

11.2.A5. Each patient shall have within his or her room a separate wardrobe, locker, or closet suitable for hanging full-length garments and for storing personal effects. Adequate storage ~~should~~ shall be available for a daily change of clothes for seven days. Where the ~~treatment~~ functional program indicates, shelves for folded garments may be used instead of hanging garments.

11.2.A6. There shall be a desk or writing surface in each room for patient use.

11.2.B. ~~Service~~ Support Areas

Provisions for the ~~services~~ support areas noted ~~below~~ in Sections 11.2.B1 through 11.2.B27 shall be located in or ~~be~~ readily available to each nursing unit. Each service area may be arranged and located to serve more than one nursing unit but, unless noted otherwise, at least one such service area shall be provided on each nursing floor. Where the words *room* or *office* are used, a separate, enclosed space for the one named function is intended; otherwise, the described area may be a specific space in another room or common area.

11.2.B1. Administrative center or nurse station.

11.2.B2. Office(s) for staff.

11.2.B3. Administrative supplies storage.

11.2.B4. Handwashing stations (see Section 7.2.B4).

11.2.B5. A separate charting area ~~shall be provided~~ with provisions for acoustical and patient file privacy.

11.2.B6. Toilet room(s) for staff.

11.2.B7. Staff lounge facilities.

11.2.B8. Securable closets or cabinet compartments for the personal effects of nursing personnel, conveniently located to the duty station. At a minimum, these shall be large enough for purses and billfolds.

11.2.B9. Clean workroom or clean holding room (see Section 7.2.B11).

11.2.B10. Soiled workroom (see Section 7.2.B12).

11.2.B11. ~~Drug distribution~~Medication station (see Section 7.2.B13).

11.2.B12. Clean linen storage (see Section 7.2.B14).

11.2.B13. Food service. Food service within the unit may be one or a combination of the following:

a. A nourishment station.

b. A kitchenette designed for patient use with staff control of heating and cooking devices.

c. A kitchen service within the unit including a handwashing station, storage space, refrigerator, and facilities for meal preparation.

11.2.B14. Ice machine (see Section 7.2.B16).

11.2.B15. Bathing facilities. A bathtub or shower shall be provided for each six beds not otherwise served by bathing facilities within the patient rooms. Bathing facilities ~~should~~ shall be designed and located for patient convenience and privacy.

11.2.B16. Social spaces. At least two separate social spaces, one appropriate for noisy activities and one for quiet activities, shall be provided. The combined area shall be at least 25 square feet (2.32 square meters) per patient with at least 120 square feet (11.15 square meters) for each of the two spaces. This space may be shared by dining activities if an additional 15 square feet (1.39 square meters) per patient is added; otherwise, ~~provide~~ 20 square feet (1.86 square meters) per patient shall be provided for dining. Dining facilities may be located off the nursing unit in a central area.

11.2.B17. Space for group therapy ~~shall be provided~~. This may be combined with the quiet space noted ~~above~~ in Section 11.2.B16 when the unit accommodates not more than 12 patients and when at least 225 square feet (20.90 square meters) of enclosed private space is available for group therapy activities.

11.2.B18. Patient laundry facilities with an automatic washer and dryer ~~shall be provided~~.

11.2.B19. A staff-controlled secured storage area for patients' effects determined potentially harmful (razors, nail files, cigarette lighters, etc.). ~~This area will be controlled by staff.~~

The following elements shall also be provided, but may be either within the psychiatric unit or immediately accessible to it unless otherwise dictated by the program:

11.2.B20. Equipment storage room. Storage space for wheelchairs may be outside the psychiatric unit, provided that provisions are made for convenient access as needed for disabled patients.

11.2.B21. Examination and treatment room(s). These ~~examination and treatment room(s)~~ may serve several nursing units and may be on a different floor if conveniently located for routine use. Examination rooms shall have a minimum floor area of 120 square feet (11.15 square meters), excluding space for vestibule, toilets, and closets. The room shall contain a handwashing station; storage facilities; and a desk, counter, or shelf space for writing.

11.2.B22. Emergency equipment storage. Space shall be provided for emergency equipment that is under direct control of the nursing staff, such as a CPR cart. This space shall be in close proximity to a nurse station; it may serve more than one unit.

11.2.B23. Housekeeping room (see Section 7.2.B22).

11.2.B24. A visitor room for patients to meet with friends or family with a minimum floor space of 100 square feet (9.29 square meters).

11.2.B25. A quiet room for a patient who needs to be alone for a short period of time but does not require a seclusion room. A minimum of 80 square feet (7.43 square meters) shall be provided ~~is required~~. The visitor room may serve this purpose.

11.2.B26. Separate consultation room(s) with minimum floor space of 100 square feet (9.29 square meters) each, provided at a room-to-bed ratio of one consultation room for each 12 psychiatric beds. The room(s) shall be designed for acoustical and visual privacy and constructed to achieve a level of voice privacy of 50 STC (which in terms of vocal privacy means some loud or raised speech is heard only by straining, but is not intelligible). The visitor room may serve as a consultation room.

11.2.B27. A conference and treatment planning room for use by the psychiatric unit. This room may be combined with the charting room.

11.2.C. Seclusion Treatment Room

There shall be at least one seclusion room on each psychiatric unit ~~for up to 24 beds or a major fraction thereof~~. The seclusion treatment room is intended for short-term occupancy ~~by violent or suicidal patients~~. Within the psychiatric nursing unit, this space provides for patients requiring security and protection. The room(s) shall be located for direct nursing staff supervision. Each room shall be for only one patient.

~~It~~ Seclusion treatment rooms shall have an area of at least 60 square feet (5.6 square meters) with a minimum dimensional wall length of 7 feet (2.13 meters) and a maximum wall length of 11 feet (3.35 meters), and shall be constructed to prevent patient hiding, escape, injury, or suicide. Where restraint beds are required by the functional program, 80 square feet (7.43 square meters) shall be required.

If a facility has more than one psychiatric nursing unit, the number of seclusion rooms shall be a function of the total number of psychiatric beds in the facility. Seclusion rooms may be grouped together.

Seclusion treatment rooms shall not contain outside corners or edges. ~~Special fixtures and hardware for electrical circuits shall be used.~~ Electrical switches and receptacles are prohibited within the seclusion room. The entrance door to the seclusion room shall swing out. Doors shall be 3 feet 8 inches (1.12 meters) wide and shall permit staff observation of the patient through a vision panel, while also maintaining provisions for patient privacy. Minimum ceiling height shall be 9 feet (2.74meters).

Seclusion treatment rooms shall be accessed by an anteroom or vestibule that also provides ~~direct~~ access to a toilet room. The doors to the anteroom and the toilet room shall be a minimum of 3 feet 8 inches (1.12 meters) wide. ~~The toilet room and anteroom shall be large enough to safely manage the patient. The seclusion room door shall swing out.~~

Where the interior of the seclusion treatment room is padded with combustible materials, these materials shall be of a type acceptable to the local authority having jurisdiction. The room area, including floor, walls, ceilings, and all openings. shall be protected with not less than one-hour-rated construction.

11.2.D. The need for and number of required airborne infection isolation rooms in the psychiatric hospital shall be determined by an ~~Infection Control Risk Assessment (~~ICRA~~)~~. ~~When~~ Where required, the airborne infection isolation room(s) shall comply with the general requirements of Section 7.2.C.

***11.2.E. Outdoor Areas**

11.3 Child Psychiatric Unit

Child psychiatric unit patient areas shall be separate and distinct from any adult psychiatric unit patient areas. The standards of Section 11.2 shall be applied to child units with the following exceptions~~:~~.

11.3.A. Patient Rooms

11.3.A1. Maximum room capacity shall be four children.

11.3.A2. Patient room (with beds or cribs) areas shall be at least 100 square feet (9.29 square meters) for single ~~-~~-bed rooms; 80 square feet (7.43 square meters) per bed and 60 square feet (5.57 square meters) per crib in multiple-bed rooms.

11.3.A3. Storage space shall be provided for toys, equipment, extra cribs and beds, and cots or recliners for parents who ~~might~~ may stay overnight.

11.3.B. ~~Service~~ Activity Areas

11.3.B1. The combined area for social activities shall be 35 square feet (3.25 square meters) per patient. The total area for social activities and dining space shall be a minimum of 50 square feet (15.24 square meters) per patient. If a separate dining space is provided, it shall be a minimum of 15 square feet (4.57 square meters) per patient.

***11.3.C. Outdoor Areas**

11.4 Geriatric, Alzheimer's, and Other Dementia Unit

The standards of Section 11.2 shall be applied to geriatric units with the following exceptions~~:~~.

11.4.A. Patient Rooms

11.4.A1. Patient room areas shall be at least 120 square feet (11.15 square meters) in single ~~-~~-bed rooms and 200 square feet (18.58 square meters) in multiple-bed rooms.

11.4.A2. A nurses call system shall be provided in accordance with the standards ~~contained~~ in Section 7.3~~2~~3.H. Provisions shall be made for easy removal or for covering call button outlets. Call cords or strings in excess of 6 inches (115.24 centimeters) shall not be permitted.

11.4.A3. Each patient bedroom shall have storage for extra blankets, pillows, and linen.

11.4.A4. Doors to patient rooms shall be a minimum of 3 feet 8 inches wide (1.12 meters).

11.4.B. Support Service Areas

11.4.B1. Patients shall have access to at least one bathtub in each nursing unit.

11.4.B2. The standards of Section 11.2.B16 shall apply for social spaces, except that the combined area for social activities shall be 30 square feet (2.79 square meters) per patient.

11.4.B3. Storage space for wheelchairs shall be provided in the nursing unit.

11.5 Forensic Psychiatric Unit

The standards of Section 11.2 shall ~~be applied~~apply to forensic units. Forensic units shall have security vestibules or sally ports at the unit entrance. Specialized program requirements may indicate the need for additional treatment areas, police and courtroom space, and security considerations. Areas for ~~C~~children, juveniles, and adolescents shall be separated from ~~the~~ adult areas.

11.6 Radiology Suite

Radiology services are not required to be provided within a psychiatric hospital. If they are provided ~~within the hospital~~, the radiology suite shall comply with Section 7.10.

11.7 Nuclear Medicine

Nuclear medicine services are not required to be provided within a psychiatric hospital. If they are provided ~~within the hospital~~, the nuclear medicine area shall comply with Section 7.11.

11.8 Laboratory Suite

Required laboratory tests may be performed on-site or provided through a contractual arrangement with a laboratory service.

Provisions shall be made for the following procedures to be performed on-site: urinalysis, blood glucose, and electrolytes. Provisions shall also be ~~included~~ made for specimen collection and processing.

Minimum facilities on-site shall include a defined area with a laboratory lab counter, sink with water, refrigerated storage, storage for equipment and supplies, clerical area, and record storage.

11.9 Rehabilitation Therapy Department

11.9.A. General

Rehabilitation therapy in a psychiatric hospital is primarily for the diagnosis and treatment of mental functions but may also seek to address physical functions in varying degrees. It may contain one or several categories of services. If a formal rehabilitative therapy service is included in a project, the facilities and equipment shall be as necessary for the effective function of the program. Where two or more rehabilitative services are included, items may be shared~~,~~ as appropriate.

11.9.B. Common Elements

Each rehabilitative therapy department shall include the following, which may be shared or provided as separate units for each service.

11.9.B1. Office and clerical space. ~~with p~~Provision shall be made for filing and retrieval of patient records.

11.9.B2. ~~Where reception and control station(s) are required by the program, p~~Provision ~~shall be made~~ for visual control of waiting and activity areas, if reception and control station(s) are required by the functional program. (~~This~~Reception and control stations may be combined with office and clerical space.)

11.9.B3. Patient waiting area(s) out of traffic, with provision for wheelchairs. The waiting area may be omitted if not required by the functional program. (Patient waiting time for rehabilitation therapy should be minimized in a psychiatric hospital.) ~~The waiting area may be omitted if not required by the program.~~

11.9.B4. Patient toilets with handwashing stations accessible to wheelchair patients.

11.9.B5. A conveniently accessible housekeeping room and service sink for housekeeping use.

11.9.B6. A secured area or cabinet within the vicinity of each work area for securing staff personal effects.

11.9.B7. Convenient access to toilets and lockers.

11.9.B8. Access to a demonstration-conference room.

11.9.C. Physical Therapy

~~The~~ An individual's physical health ~~of a person~~ can have a direct effect on his or her mental health. Therefore, physical therapy may be desirable in a psychiatric hospital, especially for long-term care patients and elderly patients.

If physical therapy is ~~part of the service~~included in the functional program, the following~~, at least,~~ shall be ~~included~~provided.

11.9.C1. Individual treatment area(s) with privacy screens or curtains. Each such space shall have not less than 60 square feet (5.57 square meters) of clear floor area.

11.9.C2. Handwashing stations for staff either within or at each treatment space. (One handwashing station may serve several treatment stations.)

11.9.C3. Exercise area and facilities.

11.9.C4. Clean linen and towel storage.

11.9.C5. Storage for equipment and supplies.

11.9.C6. Separate storage for soiled linen, towels, and supplies.

11.9.C7. Dressing areas, showers, and lockers for outpatients ~~to be treated~~.

11.9.C8. Provisions ~~shall be made~~ for thermotherapy, diathermy, ultrasonics, and hydrotherapy when required by the functional program.

11.9.D. Occupational Therapy

Occupational therapy may include such activities as woodworking, leather tooling, art, needlework, painting, sewing, metal work, and ceramics. The following~~, at least,~~ shall be ~~included~~provided:

11.9.D1. Work areas and counters suitable for wheelchair access.

11.9.D2. Handwashing stations.

11.9.D3. Storage for supplies and equipment.

11.9.D4. Secured storage for potentially harmful supplies and equipment.

***11.9.D5.** A separate room or alcove for a kiln.

11.9.D6. Remote electrical switching for potentially harmful equipment.

11.9.D7. Work areas should be sized for one therapy group at a time.

***11.9.D8.** Display areas.

11.9.E. Vocational Therapy
Vocational therapy assists patients in the development and maintenance of productive work and interaction skills through the use of work tasks. These activities may occur in an industrial therapy workshop in another department or outdoors. If ~~this~~vocational therapy is ~~service is provided~~included in the functional program, the following~~, at least,~~ shall be ~~included~~provided:

11.9.E1. Work areas suitable for wheelchair access.

11.9.E2. Handwashing stations if required by the program.

11.9.E3. Storage for supplies and equipment.

11.9.E4. Secured storage for potentially harmful supplies and equipment.

11.9.E5. Remote electrical switching for potentially harmful equipment.

11.9.E6. Group work areas. These should be sized for one therapy group at a time.

11.9.F. Recreation Therapy
Recreation therapy assists patients in the development and maintenance of community living skills through the use of leisure-time activity tasks. These activities may occur in a recreation therapy department, in specialized facilities (e.g., gymnasium), multipurpose space in other areas (e.g., the nursing unit), or outdoors. If recreation therapy is ~~part of the service~~included in the functional program, ~~T~~the following~~, at least,~~ shall be ~~included~~provided:

11.9.F1. Activity areas suitable for wheelchair access.

11.9.F2. Handwashing stations if required by the program.

11.9.F3. Storage for supplies and equipment.

11.9.F4. Secured storage for potentially harmful supplies and equipment.

11.9.F5. Remote electrical switching for potentially harmful equipment.

11.9.G. Education Therapy
Education therapy may be a program requirement, especially for children and adolescents. If education therapy is part of the functional program~~the service is provided~~, the following~~, at least,~~ shall be ~~included~~provided.

11.9.G1. Classroom with student desks with 30 square feet (2.79 square meters) per desk ~~with~~ and at least 150 square feet (13.94 square meters) per classroom.

11.9.G2. Desk and lockable storage for the teacher.

11.9.G3. Storage for supplies, equipment, and books.

11.10 Pharmacy

11.10.A. General

As described in the functional program, the size and type of ~~services~~ facilities and equipment to be provided in the pharmacy will depend on the type of patients and illnesses treated, type of drug distribution system used, number of patients to be served, and extent of shared or purchased services. ~~This shall be described in the functional program.~~ The pharmacy room or suite shall be located for convenient access, staff control, and security. ~~Facilities and equipment shall be as necessary to accommodate the functions of the program and~~ It shall include provisions for procurement, storage, distribution, and recording of drugs and other pharmacy products. (Satellite facilities, if provided, shall include those items required by the program.)

11.11 Dietary Facilities

~~(~~See Section 7.18.~~)~~

11.12 Administration and Public Areas

~~(~~See Section 7.19.~~)~~

11.13 Medical Records

~~(~~See Section 7.20.~~)~~

11.14 Central Services

If only primary medical care is provided, central services may not be required or may be provided by countertop sterilizing/cleaning equipment. If decontamination and sterilization are required on-site, a full central services area shall be provided (see Section 7.21).

11.15 General Storage

General storage room(s) with a total area of not less than 4 square feet (0.37 square meters) per inpatient bed shall be provided. Storage may be in separate, concentrated areas within the institution or in one or more individual buildings on-site. A portion of this storage may be provided off-site.

11.16 Linen Services

~~(~~See Section 7.23.~~)~~

11.17 Facilities for Cleaning and Sanitizing Carts

~~(~~See Section 7.24.~~)~~

11.18 Employee Facilities

~~(~~See Section 7.25.~~)~~

11.19 Housekeeping Room

~~(~~See Section 7.26.~~)~~

11.20 Engineering Service and Equipment Area

~~(~~See Section 7.27.~~)~~

11.21 Waste Processing Services

~~(~~See Section 7.3~~0~~1.C.~~)~~

11.22 General Standards for Details and Finishes

Details and finishes ~~The standards of Section 11.22~~ shall comply with Section 7.28 with the following exceptions:

11.22.A. The minimum door width for patient use access in new work shall be at least 3 feet (0.91 meter).

11.22.B. Where grab bars are provided, the space between the bar and the wall ~~should~~ shall be filled to prevent a cord being tied around it for hanging. Bars, including those ~~which~~ that are part of such fixtures as soap dishes, shall be sufficiently anchored to sustain a concentrated load of 250 pounds (113.4 kilograms).

11.23 Design and Construction, Including Fire-Resistant Standards

~~(~~See Section 7.29.~~)~~

11.24-11.29 Reserved

11.30 Special Systems

11.30.A. General

11.30.A1. Prior to acceptance of the facility, all special systems shall be tested and operated to demonstrate to the owner or his designated representative that the installation and performance of these systems conform to design intent. Test results shall be documented for maintenance files.

11.30.A2. Upon completion of the special systems equipment installation contract, the owner shall be furnished with a complete set of manufacturers' operating, maintenance, and preventive maintenance instructions, ~~a~~ parts lists, and complete procurement information including equipment numbers and descriptions. Operating staff persons shall also be provided with instructions for proper operation of systems and equipment. Required information shall include all safety or code ratings as needed.

11.30.A3. Insulation shall be provided surrounding special systems equipment to conserve energy, protect personnel, and reduce noise.

11.30.B. Elevators

11.30.B1. All buildings having patient facilities (such as bedrooms, dining rooms, or recreation areas) or services (such as diagnostic or therapeutic) located on other than the main entrance floor shall have electric or hydraulic elevators. Installation and testing of elevators shall comply with ANSI/ASME A17.1 for new construction and ANSI/ASME A17.3 for existing facilities. (See ASCE 7-93 for seismic design and control systems requirements for elevators.)

a. Elevators shall be equipped with a two-way automatic level-maintaining device with accuracy of ±1/4 inch (±6.4 millimeters).

b. Each elevator, except those for material handling, shall be equipped with an independent keyed switch for staff use for bypassing all landing button calls and responding to car button calls only.

c. Elevator call buttons shall be key controlled if required by the functional program, and controls shall not be activated by heat or smoke. Light beams, if used for operating door reopening devices without touch, shall be used in combination with door-edge safety devices and shall be interconnected with a system of smoke detectors. This is so that the light control feature will be overridden or disengaged should it encounter smoke at any landing.

11.30.B2. Field inspections and tests shall be made and the owner shall be furnished with written certification stating that the installation meets the requirements set forth in this section as well as all applicable safety regulations and codes.

11.30.C. Waste ~~Processing Services~~Management

~~**11.30.C1.** Storage and disposal. Facilities shall be provided for sanitary storage and treatment or disposal of waste using techniques acceptable to the appropriate health and environmental authorities. The functional program shall stipulate the categories and volumes of waste for disposal and shall stipulate the methods of disposal for each.~~

~~**11.30.C2.** Medical waste. Medical waste shall be disposed of either by incineration or other approved technologies. Incinerators or other major disposal equipment may be shared by two or more institutions.~~

~~a. Incinerators or other major disposal equipment may also be used to dispose of other medical waste where local regulations permit. Equipment shall be designed for the actual quantity and type of waste to be destroyed and should meet all applicable regulations.~~

~~b. Incinerators with 50 pounds per hour or greater capacities shall be in a separate room or outdoors; those with lesser capacities may be located in a separate area within the facility boiler room. Rooms and areas containing incinerators shall have adequate space and facilities for incinerator charging and cleaning, as well as necessary clearances for work and maintenance. Provisions shall be made for operation, temporary storage, and disposal of materials so that odors and fumes do not drift back into occupied areas. Existing approved incinerator installations, which are not in separate rooms or outdoors, may remain unchanged provided they meet the above criteria.~~

~~c. The design and construction of incinerators and trash chutes shall comply with NFPA 82.~~

~~*d. Heat recovery.~~

~~*e. Environmental guidelines.~~

***11.30.C1.** Collection and Storage. Waste collection and storage locations shall be determined by the facility as a component of the functional program. The functional program shall stipulate the categories and volumes of waste for disposal and the methods of handling and disposal of waste. The functional program shall outline the space requirements, including centralized waste collection and storage spaces. Size of spaces shall be determined based upon volume of projected waste and length of anticipated storage.

a. At docks or other waste removal areas, the functional program shall stipulate the location of compactors, balers, sharps, and recycling container staging. Red bag waste shall be staged in enclosed and secured areas. Biohazardous and environmentally hazardous materials, including mercury, nuclear reagent waste, and other regulated waste types, shall be segregated and secured.

b. If provided, regulated medical waste or infectious waste storage spaces shall have a floor drain, cleanable floor and wall surfaces, lighting, and exhaust ventilation, and should be safe from weather, animals and unauthorized entry. Refrigeration requirements for such storage facilities shall comply with state and/or local regulations.

11.30.C2 Waste Treatment and Disposal Technologies

*a. On-site hospital incinerators shall comply with federal, state, and local regulatory and environmental requirements. The design and construction of incinerators and trash chutes shall comply with NFPA 82.

*b. Types of non-incineration waste treatment technology(ies) shall be determined by the facility in conjunction with environmental, economic, and regulatory considerations. The functional program shall describe waste treatment technology components.

(1) In determining the location for a non-incineration technology, safe transfer routes, distances from waste sources, temporary storage requirements, as well as space requirements for treatment equipment shall be considered. The location of the technology shall not cause traffic problems as waste is brought in and out. Odor, noise, and the visual impact of medical waste operations on patients, visitors, public access and security shall be considered.

(2) Space requirements for such technologies shall be determined by the equipment requirements, including associated area for opening waste entry doors, access to control panels, space for hydraulic lifts, conveyors, and operational clearances. Mobile or portable units, trailer-mounted units, underground installations, or all-weather enclosed shelters at an outdoor site may also be used, subject to local regulatory approvals.

(3) Exhaust vents, if any, from the treatment technology shall be located a minimum of 75 feet (22.86 meters) from inlets to HVAC systems. If the technology involves heat dissipation, sufficient cooling and ventilation shall be provided.

11.31 Mechanical Standards

11.31.A. General

***11.31.A1.** The mechanical system ~~should~~ shall be designed for overall efficiency and appropriate life-

cycle cost. Details for cost-effective implementation of design features are interrelated and too numerous (as well as too basic) to list individually. Recognized engineering procedures shall be followed for the most economical and effective results. ~~A well-designed system can generally achieve energy efficiency at minimal additional cost and simultaneously provide improved patient comfort. Different geographic areas may have climatic and use conditions that favor one system over another in terms of overall cost and efficiency.~~ In no case shall patient care or safety be sacrificed for conservation.

Mechanical, electrical, and HVAC equipment may be located either internally, externally, or in separate buildings. **[Clemson: Necessary? Are there any other options?]**

11.31.A2. Remodeling and work in existing facilities may present special problems. As practicality and funding permit, existing insulation, weather stripping, etc., should be brought up to standard for maximum economy and efficiency. Consideration shall be given to additional work that may be needed to achieve this.

11.31.A3. Facility design consideration shall include site, building mass, orientation, configuration, fenestration, and other features relative to passive and active energy systems.

11.31.A4. Insofar as practical, the facility should include provisions for recovery of waste cooling and heating energy (ventilation, exhaust, water and steam discharge, cooling towers, incinerators, etc.).

11.31.A5. Facility design consideration shall include recognized energy-saving mechanisms such as variable-air-volume systems, load shedding, programmed controls for unoccupied periods (nights and weekends, etc.) and use of natural ventilation, site and climatic conditions permitting. Systems with excessive installation and/or maintenance costs that negate long-range energy savings should be avoided.

11.31.A6. Air-handling systems shall be designed with an economizer cycle where appropriate to use outside air. Use of mechanically circulated outside air does not reduce need for filtration.

11.31.A.7. Mechanical equipment, ductwork, and piping shall be mounted on vibration isolators as required to prevent unacceptable structure-borne vibration.

11.31.A8. Supply and return mains and risers for cooling, heating, and steam systems shall be equipped with valves to isolate the various sections of each system. Each piece of equipment shall have valves at the supply and return ends.

11.31.B. Thermal and Acoustical Insulation

11.31.B1. Insulation within the building shall be provided to conserve energy, protect personnel, prevent vapor condensation, and reduce noise.

11.31.B2. Insulation on cold surfaces shall include an exterior vapor barrier. (Material that will not absorb or transmit moisture will not require a separate vapor barrier.)

11.31.B3. Insulation, including finishes and adhesives on the exterior surfaces of ducts, piping, and equipment, shall have a flame-spread rating of 25 or less and a smoke-developed rating of 50 or less as determined by an independent testing laboratory in accordance with NFPA 255.

11.31.B4. If duct lining is used, it shall be coated and sealed, and shall meet ASTM C1071. These linings

(including coatings, adhesives, and exterior surface insulation on pipes and ducts in spaces used as air supply plenums) shall have a flame-spread rating of 25 or less and a smoke-developed rating of 50 or less, as determined by an independent testing laboratory in accordance with NFPA 255. If existing lined ductwork is reworked in a renovation project, the liner seams and punctures shall be resealed.

11.31.B5. Existing accessible insulation within areas of facilities to be modernized shall be inspected, repaired, and/or replaced, as appropriate.

11.31.B6. Duct lining shall not be installed within 15 feet (4.57 meters) downstream of humidifiers.

11.31.C. Steam and Hot Water Systems

11.31.C1. Boilers shall have the capacity, based upon the net ratings published by the Hydronics Institute or another acceptable national standard, to supply the normal heating, hot water, and steam requirements of all systems and equipment.

11.31.D. Heating, Ventilation, and Air Conditioning~~,~~ (HVAC) ~~Heating, and Ventilation~~ Systems

11.31.D1. All rooms and areas ~~in the facility~~ used for patient care shall have provisions for ventilation. The ventilation rates shown in Table 7.2 shall be used only as minimum standards; they do not preclude the use of higher, more appropriate rates. Fans serving exhaust systems shall be located at the discharge end and shall be readily serviceable. Air supply and exhaust in rooms for which no minimum total air change rate is noted may vary down to zero in response to room load. For rooms listed in Table 7.2, where VAV systems are used, minimum total air change shall be within limits noted. ~~Temperature control shall also comply with these standards.~~ Space temperature and relative humidity shall be as indicated in Table 7.2. The ventilation systems shall be designed and balanced according to the requirements shown in Table 7.2 and in the applicable notes.

For renovation projects, prior to the start of construction and preferably during design, airflow and static pressure measurements shall be taken at the connection points of new ductwork to existing systems. This information shall be used by the designer to determine if existing systems have sufficient capacity for intended new purposes, and so any required modifications to the existing system can be included in the design documentation.

11.31.D2. General exhaust systems may be combined to enhance the efficiency of recovery devices required for energy conservation. Local exhaust systems shall be used ~~whenever~~ wherever possible in place of dilution ventilation to reduce exposure to hazardous gases, vapors, fumes, or mists.

Exhaust outlets from areas that may be contaminated shall be above roof level, arranged to minimize recirculation of exhaust air into the building, and directed away from personnel service areas.

11.31.D3. Fresh air intakes shall be located at least 25 feet (7.62 meters) from exhaust outlets of ventilating systems, combustion equipment stacks, medical-surgical vacuum systems, plumbing vents, or areas that may collect vehicular exhaust or other noxious fumes. (Prevailing winds and/or proximity to other structures may require greater clearances.) Plumbing and vacuum vents that terminate at a level above the top of the air intake may be located as close as 10 feet (3.05 meters). The bottom of outdoor air intakes serving central systems shall be as high as practical, but at least 6 feet (1.83 meters) above ground level, or, if installed above the roof, 3 feet (0.91 meter) above roof level. ~~Exhaust outlets from areas that may be contaminated shall be above roof level, arranged to minimize recirculation of exhaust air into the~~

~~building, and directed away from personnel service areas.~~

11.31.D4. All central ventilation or air conditioning systems shall be equipped with filters with efficiencies equal to, or greater than, those specified in Table 11.1. Filter efficiencies, tested in accordance with ASHRAE 52.1-1992, shall be average. Filter frames shall be durable and proportioned to provide an airtight fit with the enclosing duct~~-~~work. All joints between filter segments and enclosing duct~~-~~work shall have gaskets or seals to provide a positive seal against air leakage. A manometer shall be installed across each filter bed having a required efficiency of 75 percent or more. Provisions shall be made to allow access for field testing.

***11.31.D5.** If duct humidifiers are located upstream of the final filters, they shall be ~~located~~ at least 15 feet (4.57 meters) upstream of the final filters. Ductwork with duct-mounted humidifiers shall have a means of water removal. An adjustable high-limit humidistat shall be located downstream of the humidifier to reduce the potential for condensation inside the duct. All duct takeoffs shall be sufficiently downstream of the humidifier to ensure complete moisture absorption. Steam humidifiers shall be used. Reservoir-type water spray or evaporative pan humidifiers shall not be used.

11.31.D6. Air-handling duct systems shall be designed with accessibility for duct cleaning~~,~~ and shall meet the requirements of NFPA 90A.

11.31.D7. Ducts that penetrate construction intended for ~~X~~x-ray or other ray protection shall not impair the effectiveness of the protection.

11.31.D8. Fire and smoke dampers shall be constructed, located, and installed in accordance with the requirements of NFPA 101, 90A, and the specific damper's ~~L~~listing requirements. Fans, dampers, and detectors shall be interconnected so that damper activation will not damage ducts. Maintenance access shall be provided at all dampers. All damper locations ~~should~~ shall be shown on design drawings. Dampers ~~should~~ shall be activated by fire or smoke sensors, not by fan cutoff alone. Switching systems for restarting fans may be installed for fire department use in venting smoke after a fire has been controlled. However, provisions should be made to avoid possible damage to the system due to closed dampers. When smoke partitions are required, heating, ventilation, and air conditioning zones shall be coordinated with compartmentation insofar as practical to minimize need to penetrate fire and smoke partitions.

11.31.D9. Exhaust hoods handling grease-laden vapors in food preparation centers shall comply with NFPA 96. All hoods over cooking ranges shall be equipped with grease filters, fire extinguishing systems, and heat-actuated fan controls. Cleanout openings shall be provided every 20 feet (6.10 meters)~~,~~ and at changes in direction~~,~~ in the horizontal exhaust duct systems serving these hoods. (Horizontal runs of ducts serving range hoods should be kept to a minimum.)

11.31.D10. Rooms with fuel~~-~~fired equipment shall be provided with sufficient outdoor air to maintain equipment combustion rates and to limit work~~-~~station temperatures.

11.31.D11. Gravity exhaust may be used, where conditions permit, for nonpatient areas such as boiler rooms, central storage, etc.

11.31.D12. The energy-saving potential of variable air volume systems is recognized, and these standards ~~herein~~ are intended to maximize appropriate use of ~~that~~ such system~~s~~. Any system ~~utilized~~ used for occupied areas shall include provisions to avoid air stagnation in interior spaces where thermostat demands are met by temperatures of surrounding areas.

11.31.D13. Special consideration shall be given to the type of heating and cooling units, ventilation outlets, and appurtenances installed in patient-occupied areas. The following shall apply:

a. All air grilles and diffusers shall be of a type that prohibits the insertion of foreign objects. All exposed fasteners shall be tamper-resistant.

b. All convector or HVAC enclosures exposed in the room shall be constructed with rounded corners and shall have enclosures fastened with tamper-resistant screws.

c. HVAC equipment shall be of a type that minimizes the need for maintenance within the room.

11.31.D14. Rooms used for sputum induction, aerosolized pentamidine treatments, and other cough-inducing procedures shall meet the requirements of Table 7.2 for airborne infection isolation rooms. If booths are used, refer to Section 7.~~15~~16.E.

11.31.D15. Non-central air--handling systems~~,~~ (i.e., individual room units that are used for heating and cooling purposes) (fan-coil units, heat pump units, etc.) shall be equipped with permanent (cleanable) or replaceable filters. The filters shall have a minimum efficiency of 68 percent weight arrestance (MERV 3). These units may be used as recirculating units only. All outdoor requirements shall be met by a separate central air-handling system with the proper filtration, as noted in Table 11.1.

11.31.E. Plumbing and Other Piping Systems
Unless otherwise specified herein, all plumbing systems shall be designed and installed in accordance with *National Standard Plumbing Code*, chapter 14, Medical Care Facility Plumbing Equipment.

11.31.E1. Plumbing fixtures. See Section 7.32.E1. ~~The following standards shall apply to plumbing fixtures:~~

~~a. The material used for plumbing fixtures shall be nonabsorptive and acid-resistant.~~

~~b. Water spouts used in lavatories and sinks shall have clearances adequate to avoid contaminating utensils and the contents of carafes, etc.~~

~~c. General handwashing stations used by medical and nursing staff and all lavatories used by patients and food handlers shall be trimmed with valves that can be operated without hands. (Single lever or wrist blade devices may be used.) Blade handles used for this purpose shall not exceed 4 1/2 inches (114.3 millimeters) in length. Handles on clinical sinks shall be at least 6 inches (152.4 millimeters) long. Freestanding scrub sinks and lavatories used for scrubbing in procedure rooms shall be trimmed with foot, knee, or ultrasonic controls (no single lever wrist blades).~~

~~d. Clinical sinks shall have an integral trap wherein the upper portion of the water trap provides a visible seal.~~

~~e. Showers and tubs shall have nonslip walking surfaces.~~

11.31.E2. ~~The following standards shall apply to p~~Potable water supply systems. See Section 7.32.E2.~~:~~

~~a. Systems shall be designed to supply water at sufficient pressure to operate all fixtures and equipment~~

~~during maximum demand. Supply capacity for hot and cold water piping shall be determined on the basis of fixture units, using recognized engineering standards. When the ratio of plumbing fixtures to occupants is proportionally more than required by the building occupancy and is in excess of 1,000 plumbing fixture units, a diversity factor is permitted.~~

~~b. Each water service main, branch main, riser, and branch to a group of fixtures shall have valves. Stop valves shall be provided for each fixture. Appropriate panels for access shall be provided at all valves where required.~~

~~c. Vacuum breakers shall be installed on hose bibs and supply nozzles used for connection of hoses or tubing in laboratories, housekeeping sinks, bedpan flushing attachments, and autopsy tables, etc.~~

~~d. Bedpan flushing devices (may be cold water) shall be provided in each inpatient toilet room; however, installation is optional in psychiatric and alcohol abuse units where patients are ambulatory.~~

~~e. Potable water storage vessels (hot and cold) not intended for constant use shall not be installed.~~

11.31.E3. ~~The following standards shall apply to h~~Hot water systems. See Section 7.32E3.~~:~~

~~a. The water heating system shall have sufficient supply capacity at the temperatures and amounts indicated in Table 7.4. Water temperature is measured at the point of use or inlet to the equipment. Water shall be permitted to be stored at higher temperatures.~~

~~b. Hot water distribution systems serving patient care areas shall be under constant recirculation to provide continuous hot water at each hot water outlet.~~

~~*c. Provisions shall be included in the domestic hot water system to limit the amount of *Legionella* bacteria and opportunistic waterborne pathogens.~~

11.31.E4. ~~The following standards shall apply to d~~Drainage systems. See Section 7.32.E4.~~:~~

~~a. Drain lines from sinks used for acid waste disposal shall be made of acid resistant material.~~

~~b. Drain lines serving some types of automatic blood cell counters must be of carefully selected material that will eliminate potential for undesirable chemical reactions (and/or explosions) between sodium azide wastes and copper, lead, brass, and solder, etc.~~

~~c. Insofar as possible, drainage piping shall not be installed within the ceiling or exposed in food preparation centers, food serving facilities, food storage areas, central services, electronic data processing areas, electric closets, and other sensitive areas. Where exposed, overhead drain piping in these areas is unavoidable, special provisions shall be made to protect the space below from leakage, condensation, or dust particles.~~

~~d. Floor drains shall not be installed in operating rooms.~~

~~e. Drain systems for autopsy tables shall be designed to positively avoid splatter or overflow onto floors or back siphonage and for easy cleaning and trap flushing.~~

~~f. Building sewers shall discharge into community sewerage. Where such a system is not available, the~~

~~facility shall treat its sewage in accordance with local and state regulations.~~

~~g. Kitchen grease traps shall be located and arranged to permit easy access without the need to enter food preparation or storage areas. Grease traps shall be of capacity required and shall be accessible from outside of the building without need to interrupt any services.~~

~~h. In dietary areas, floor drains and/or floor sinks shall be of type that can be easily cleaned by removal of cover. Provide floor drains or floor sinks at all "wet" equipment (as ice machines) and as required for wet cleaning of floors. Provide removable stainless steel mesh in addition to grilled drain cover to prevent entry of large particles of waste which might cause stoppages. Location of floor drains and floor sinks shall be coordinated to avoid conditions where locations of equipment make removal of covers for cleaning difficult.~~

11.31.E5. ~~The i~~Installation, testing, and certification of nonflammable medical gas and air systems ~~shall comply with the requirements of NFPA 99. (See Table 7.5 for rooms requiring station outlets.)~~. See Section 7.32.E5.

11.31.E6. Clinical vacuum system~~s. installations shall be in accordance with NFPA 99. (See Table 7.5 for rooms requiring station outlets.)~~See Section 7.32.E6.

11.31.E7. ~~All~~ System piping~~, except control line tubing, shall be identified. All valves shall be tagged, and a valve schedule shall be provided to the facility owner for permanent record and reference~~. See Section 7.32.E7.

11.31.E8. ~~Provide c~~Condensate drainage. ~~s for cooling coils of type that may be cleaned as needed without disassembly. (Unless specifically required by local authorities, traps are not required for condensate drains.) Provide air gap where condensate drains empty into floor drains. Provide heater elements for condensate lines in freezer or other areas where freezing may be a problem.~~See Section 7.32.E10.

11.31.E9. ~~No p~~Plumbing in food preparation and storage areas. ~~lines may be exposed overhead or on walls where possible accumulation of dust or soil may create a cleaning problem or where leaks would create a potential for food contamination.~~See Section 7.32.E11.

11.32. Electrical Standards

11.32.A. General

11.32.A1. All electrical material and equipment, including conductors, controls, and signaling devices, shall be installed in compliance with applicable sections of NFPA 70 and NFPA 99 and shall be listed as complying with available standards of listing agencies or other similar established standards where such standards are required.

11.32.A2. The electrical installations, including alarm, nurse call, staff emergency signed system, and communication systems, shall be tested to demonstrate that equipment installation and operation is appropriate and functional. A written record of performance tests on special electrical systems and equipment shall show compliance with applicable codes and standards.

11.32.A3. Data processing and/or automated laboratory or diagnostic equipment, if provided, may require

safeguards from power line disturbances.

11.32.B. Services and Switchboards
Main switchboards shall be located in an area separate from plumbing and mechanical equipment and shall be accessible to authorized persons only. Switchboards shall be convenient for use, readily accessible for maintenance, away from traffic lanes, and located in dry, ventilated spaces free of corrosive or explosive fumes, gases, or any flammable material. Overload protective devices shall operate properly in ambient room temperatures.

11.32.C. Panelboards
Panelboards serving normal lighting and appliance circuits shall be located on the same floor as the circuits they serve. Panelboards serving critical branch emergency circuits shall be located on each floor that has major users. Panelboards serving Life Safety emergency circuits may also serve floors above and/or below.

11.32.D. Lighting

11.32.D1. Lighting shall be engineered to the specific application.

11.32.D2. The Illuminating Engineering Society of North America (IES) has developed recommended lighting levels for health care facilities. ~~The reader should r~~Refer to the IES publication ~~*IES Handbook* (1993)~~RP-29, *Lighting for Hospitals and Health Care Facilities*.

11.32.D3. Approaches to buildings and parking lots and all occupied spaces shall have lighting fixtures for ~~lighting~~ that can be illuminated as necessary.

11.32.D4. Patient rooms shall have general lighting and night lighting. At least one night-light fixture in each patient room shall be controlled at the room entrance.

11.32.D5. Nursing unit corridors shall have general illumination with provisions for reducing light levels at night.

11.32.D6. Consideration should be given to the special needs of the elderly. Excessive contrast in lighting levels that make effective sight adaptation difficult should be minimized. Refer to IES publication, RP-28, *Lighting and the Visual Environment for Senior Living*.

11.32.E. Receptacles (Convenience Outlets)

11.32.E1. Each patient room shall have duplex-grounded receptacles. There shall be one at each side of the head of each bed and one on every other wall. Receptacles may be omitted from exterior walls where construction or room configuration makes installation impractical. These outlets shall be tamper-resistant or equipped with ground-fault circuit interrupters (GFCIs).

11.32.E2. Duplex-grounded receptacles for general use shall be installed approximately 50 feet (15.24 meters) apart in all corridors and within 25 feet (7.62 meters) of corridor ends. These outlets shall be tamper-resistant or equipped with GFCIs.

11.32.E3. Electrical receptacle coverplates or electrical receptacles supplied from the emergency system shall be distinctively colored or marked for identification. If color is used for identification purposes, the

same color should be used throughout the facility.

11.32.F. Equipment

11.32.F1. Ground-fault circuit interrupters shall comply with NFPA 70. ~~When~~ Where GFCIs are used in critical areas, provisions shall be made to ~~i~~ensure that other essential equipment is not affected by activation of one interrupter.

11.32.F2. Special equipment is identified in the following sections: Nursing Units, Resident Support Areas, Rehabilitation Therapy, Laboratory, Pharmacy, and Imaging if applicable. These sections shall be consulted to ensure compatibility between programmatically define equipment needs and appropriate power and other electrical connection needs.

11.32.G. Nurse Calling System

11.32.G1. A nurse~~s~~ calling system is not required in psychiatric nursing units, but if it is included provisions shall be made for easy removal or ~~for~~ covering of call buttons. All hardware shall have tamper-resistant fasteners. Calls shall activate a visible signal in the corridor at the patient's door and at an annunciator panel at the nurse station or other appropriate location. In multicorridor nursing units, additional visible signals shall be installed at corridor intersections.

11.32.G2. The staff emergency call, if provided, shall be designed so that a signal activated by staff at a patient's calling station will initiate a visible and audible signal distinct from the regular nurse calling system. The signal shall activate an annunciator panel at the nurses' station or other appropriate location, a distinct visible signal in the corridor at the door to the room from which the signal was initiated, and at other areas defined by the functional program.

11.32.G3. Alternate technologies ~~can~~ may be considered for emergency or nurse call systems. If radio frequency systems are ~~utilized~~used, consideration should be given to electromagnetic compatibility between internal and external sources.

11.32.H. Emergency Electrical Service

11.32.H1. As a minimum, nursing facilities or sections thereof shall have emergency electrical systems as required in NFPA 101, NFPA 110, and NFPA 99.

11.32.H2. ~~When~~ Where the psychiatric facility is a distinct part of an acute-care hospital, it may use the emergency generator system for required emergency lighting and power, if such sharing does not reduce hospital services. Life support systems and their respective areas shall be subject to applicable standards of Section 7.32.

11.32.H3. An emergency electrical source shall provide lighting and/or power during an interruption of the normal electric supply.

11.32.I. Fire Alarm System
Fire alarm and detection systems shall be provided in compliance with NFPA 101 and NFPA 72.

11.32.J. Telecommunications and Information Systems

11.32.J1. Locations for terminating telecommunications and information system devices shall be provided.

11.32.J2. An area shall be provided for central equipment locations. Special air conditioning and voltage regulation shall be provided when recommended by the manufacturer.

11.32.K. Electronic Surveillance Systems

11.32.K1. Electronic surveillance systems are not required in psychiatric nursing units, but if provided for the safety of the residents, any devices in resident areas shall be mounted such that they are unobtrusive and in a tamper- resistant enclosure.

11.32.K2. Electronic surveillance system monitoring devices shall be located in such a location as not to be readily observable by the general public or other patients.

11.32.K3. Electronic surveillance systems, if installed, shall be supplied power from the emergency electrical system in the event of a disruption of normal electrical power.