9. OUTPATIENT FACILITIES

9.1 General

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

9.1.A. Section Applicability
This section applies to the outpatient unit in a hospital, a freestanding facility, or an outpatient facility in a multiple-use building containing an ambulatory health care center as defined under the NFPA 101 Life Safety Code occupancy chapters.

The general standards set forth in Sections 9.1 and 9.2 apply to each of the ~~items~~ facility types below. Additions and/or modifications shall be made as described for the specific facility type.

Specialty facilities such as those for renal dialysis, cancer treatment, mental health, rehabilitation, etc., have needs that are not addressed here. They must satisfy additional conditions to meet respective programs' standards.

Specifically described are:

9.1.A1. Primary Care Outpatient Center (Section 9.3).

9.1.A2. ~~The~~ Small Primary (Neighborhood) Outpatient Facility (Section 9.4).

9.1.A3. ~~The~~ Outpatient Surgical Facility (Section 9.5).

9.1.A4. ~~The~~ Freestanding ~~Emergency~~ Urgent Care Facility (Section 9.6).

9.1.A5. Freestanding Birthing Center (Section 9.7).

9.1.A6. Freestanding Outpatient Diagnostic and Treatment Facility (Section 9.8).

9.1.A7. Gastrointestinal Endoscopy Facility (Section 9.9).

9.1.A8. Psychiatric Outpatient Center (Section 9.11).

9.1.A9. Renal Dialysis (Acute and Chronic) Center (Section 9.12).

9.1.B. Outpatient Facility Classification
Except for the emergency unit, the outpatient facilities described herein are used primarily by patients capable of traveling into, around, and out of the facility unassisted. This group includes the disabled confined to wheelchairs. Occasional facility use by stretcher patients ~~should~~ shall not be used as a basis for more restrictive institutional occupancy classifications.

Facilities shall comply with the "Ambulatory Health Care Centers" section of NFPA 101, in addition to details herein, where patients are rendered incapable of self-preservation due to the care process. The "Business Occupancy" section of NFPA 101 applies to other types of outpatient facilities. Outpatient units that are part of another facility may be subject to the additional requirements of the other occupancy.

References are made to ~~Section~~ Chapter 7, General Hospital, for certain service spaces. Those references are intended only for the specific areas indicated.

9.1.C. Facility Access
Where the outpatient unit is part of another facility, separation and access shall be maintained as described in NFPA 101. Building entrances used to reach the outpatient services shall be at grade level, clearly marked, and located so that patients need not go through other activity areas. (Lobbies of multi-occupancy buildings may be shared.) Design shall preclude unrelated traffic within the unit.

9.1.D. Functional Program Provision
Each project sponsor shall provide a functional program for the facility. (See Section 1.1.F.)

9.1.E. Shared/Purchased Services
When services are shared or purchased, modification or elimination of space and equipment ~~should be modified or eliminated~~ to avoid unnecessary duplication is permitted.

***9.1.F. Location**

9.1.G. Parking
In the absence of a formal parking study, parking for outpatient facilities shall be provided at the rate noted for each type of unit. On-street parking, if available and acceptable to local authorities having jurisdiction, may satisfy part of this requirement unless described otherwise. If the facility is located in a densely populated area where a large percentage of patients arrive as pedestrians,~~;~~ or if adequate public parking is available nearby~~;~~, or if the facility is conveniently accessible via public transportation, adjustments to this standard may be made with approval of the appropriate authorities.

9.1.H. Privacy for Patients
Each facility design shall ensure appropriate levels of patient ~~audible~~ acoustical and visual privacy and dignity throughout the care process, consistent with needs established in the functional program. See Section 1.6.

9.2 Common Elements for Outpatient Facilities

The following shall apply to each outpatient facility described herein, with additions and/or modifications as noted for each specific type. ~~Special c~~Consideration shall be given to the special needs of anticipated patient groups/demographics as determined by the functional program.

***9.2.A. Administrative~~on~~ and Public Areas.** The following shall be provided:

9.2.A1. Entrance. This shall be ~~l~~located at grade level and be able to accommodate wheelchairs.

9.2.A2. Public services. These shall include:

a. Conveniently accessible wheelchair storage.

b. A reception and information counter or desk.

*c. Waiting space(s).

d. Conveniently accessible public toilet(s). Toilet(s) for public use shall be accessible from the waiting area

without passing through patient care or staff work areas or suites.

e. Conveniently accessible public telephone(s).

f. Conveniently accessible drinking fountain(s).

9.2.A3. Interview space(s). Space(s) shall be provided for private interviews related to social service, credit, etc.~~, shall be provided.~~

9.2.A4. General or individual office(s). Office(s) shall be provided for business transactions, records, and administrative~~,~~ and professional staffs ~~shall be provided~~.

~~**9.2.A5.** Clerical space or rooms for typing, clerical work, and filing, separated from public areas for confidentiality, shall be provided.~~

~~**9.2.A6.** Multipurpose room(s) equipped for visual aids shall be provided for conferences, meetings, and health education purposes.~~

9.2.A~~7~~5. Special storage for staff personal effects. Such storage shall have ~~with~~ locking drawers or cabinets (may be individual desks or cabinets) ~~shall be provided~~. ~~Such storage~~ It shall be near individual work ~~-~~stations and shall be staff controlled.

9.2.A~~8~~6. General storage facilities for supplies and equipment. These facilities shall be provided as needed for continuing operation.

9.2.A~~9~~7. Water supply and drainage facility. In new construction and renovation where hemodialysis or hemoperfusion are routinely performed, ~~there shall be~~ a separate water supply and ~~a~~ drainage facility that does not interfere with handwashing shall be provided.

9.2.B. Clinical Facilities

~~As needed, t~~Clinical and support areas shall be provided to support the functional program. The following spaces are common to most outpatient facilities~~he following elements shall be provided for clinical services to satisfy the functional program~~:

***9.2.B1.** General-purpose examination room(s). Rooms ~~F~~for medical, obstetrical, and similar examinations, if provided, ~~rooms~~ shall have a minimum floor area of 80 net square feet (7.43 square meters). This square footage shall~~,~~ exclude~~ing~~ vestibules, toilets, ~~and~~ closets, and fixed casework. Room arrangement ~~should~~ shall permit at least 2 feet 8 inches (812.8 millimeters) clearance at each side and at the foot of the examination table. A handwashing station and a counter or shelf space for writing shall be provided.

***9.2.B2.** Special-purpose examination rooms. Rooms for special clinics such as eye, ear, nose, and throat examinations, if provided, shall have a minimum floor area of 80 net square feet (7.43 square meters). This square footage shall exclude vestibules, toilets, closets, and fixed casework. Room arrangement shall permit a minimum clearance of 2 feet, 8 inches (0.81 meter) at each side and at the foot of the examination table, bed, or chair.~~be designed and outfitted to accommodate procedures and equipment used.~~ A handwashing station and a counter or shelf space for writing shall be provided.

***9.2.B3.** Treatment room(s). Rooms for minor surgical and cast procedures, ~~(~~if provided~~),~~ shall have a

minimum floor area of 120 square feet (11.15 square meters)~~.~~, This square footage shall exclude~~ing~~ vestibule, toilet, ~~and~~ closets, and fixed casework. The minimum room dimension shall be 10 feet (3.05 meters). Room arrangement shall permit a minimum clearance of 3 feet (0.91 meter) at each side and at the foot of the bed. A handwashing station and a counter or shelf for writing shall be provided.

***9.2.B4.** Observation room(s). If provided, ~~O~~observation rooms for the isolation of suspect or disturbed patients shall have a minimum floor area of 80 square feet (7.43 square meters). This square footage shall exclude vestibule, toilet, closets, and fixed casework. ~~and~~and the room shall be convenient to a nurse or control station~~. This is to permit close observation of patients and to minimize possibilities of patients' hiding, escape, injury, or suicide. An examination room may be modified to accommodate this function. A toilet room with lavatory should be immediately accessible.~~

9.2.B5. Nurses station(s). A work counter, communication system, space for supplies, and provisions for charting shall be provided.

9.2.B6. Drug distribution station. This may be a part of the nurses station and shall include a work counter, sink, refrigerator, and locked storage for biologicals and drugs.

9.2.B7. Clean storage. A separate room or closet for storing clean and sterile supplies shall be provided. This storage shall be in addition to that of cabinets and shelves.

9.2.B8. Soiled holding. Provisions shall be made for separate collection, storage, and disposal of soiled materials.

9.2.B9. Sterilizing facilities. A system for sterilizing equipment and supplies shall be provided. Sterilizing procedures may be done on- or off-site, or disposables may be used to satisfy functional needs.

9.2.B10. Wheelchair storage space. Such storage shall be out of the direct line of traffic.

9.2.B11. Airborne infection isolation rooms. In facilities whose functional program includes treatment of patients with known infectious disease, ~~T~~the need for and number of such rooms ~~required airborne infection isolation rooms~~ shall be determined by an infection control risk assessment (ICRA). ~~When~~ Where ~~required, the~~ airborne infection isolation room(s) are required, they shall comply with the general requirements of Section 7.2.C, except that a shower or tub shall not be required.

9.2.B12. Protective environment rooms. The need for and number of required protective environment rooms shall be determined by an infection control risk assessment. When required, the protective environment room(s) shall comply with the general requirements of Section 7.2.D, except that a toilet, bathtub, or shower shall not be required.

9.2.B13. Toilet(s) for patient use. These shall be provided separate from public use toilet(s) and located to permit access from patient care areas without passing through publicly accessible areas.

9.2.C. Radiology

Basic diagnostic procedures (these may be part of the outpatient service, off-site, shared, by contract, or by referral) shall be provided, and shall include~~ing~~ the following:

9.2.C1. Radiographic room(s). See Section 7.~~10~~ 12 for special requirements.

9.2.C2. Film processing facilities.

9.2.C3. Viewing and administrative areas(s).

9.2.C4. Storage facilities for exposed film.

9.2.C5. Toilet rooms with handwashing stations. These shall be accessible to ~~fluoroscopy~~ procedure room(s), if ~~fluoroscopic~~ procedures provided may result in the need for immediate access to patient toilet facilities~~are part of the program~~.

9.2.C6. Dressing rooms or booths.~~,~~ These shall be provided as required by the functional program~~services provided~~, with convenient toilet access.

***9.2.C7.** Access.

9.2.D. Laboratory
Facilities shall be provided within the outpatient department, or through an effective contract arrangement with a nearby hospital or laboratory service, for hematology, clinical chemistry, urinalysis, cytology, pathology, and bacteriology. If these services are provided on contract, the following laboratory facilities shall also be provided in (or be immediately accessible to) the outpatient facility:

9.2.D1. Laboratory work counter(s), with sink, vacuum, gas, and electric services.

9.2.D2. Lavatory(ies) or counter sink(s) equipped for handwashing.

9.2.D3. Storage cabinet(s) or closet(s).

9.2.D4. Specimen collection facilities with a water closet and lavatory. Blood collection facilities shall have seating space, a work counter, and handwashing station.

9.2.E. Housekeeping Room(s)
At least one housekeeping room per floor shall be provided. It shall contain a service sink and storage for housekeeping supplies and equipment.

~~**9.2.F. Staff Facilities**~~
~~Staff locker rooms and toilets shall be provided.~~

9.2.~~G~~F. Engineering Service and Equipment Areas
The following shall be provided (~~these~~ may be shared with other services provided capacity is appropriate for overall use):

9.2.~~G~~F1. Equipment room(s) for boilers, mechanical equipment, and electrical equipment.

9.2.~~G~~F2. Storage room(s) for supplies and equipment.

9.2.~~G~~F3. Waste processing services:

a. Space and facilities shall be provided for the sanitary storage and disposal of waste.

b. If incinerators and/or trash chutes are used, they shall comply with NFPA 82.

c. Incinerators, if used, shall also conform to the standards prescribed by area air pollution regulations.

9.2.~~H~~G. Details and Finishes

9.2.~~H~~G1. Details shall comply with the following standards:

a. Minimum public corridor width shall be 5 feet (1.52 meters). Staff-only corridors may be 44 inches (1.12 meters) wide.

b. Each building shall have at least two exits that are remote from each other. Other details relating to exits and fire safety shall comply with NFPA 101 and the standards outlined herein.

c. Items such as drinking fountains, telephone booths, vending machines, etc., shall not restrict corridor traffic or reduce the corridor width below the required minimum. Out-of-traffic storage space for portable equipment shall be provided.

d. The minimum nominal door width for patient use shall be 3 feet (0.91 meter). If the outpatient facility ~~services~~ serves hospital inpatients, the minimum nominal width of doors to rooms used by hospital inpatients transported in beds shall be 3 feet 8 inches (1.12 meters).

e. Doors, sidelights, borrowed lights, and windows glazed to within 18 inches (457.2 millimeters) of the floor shall be constructed of safety glass, wired glass, or plastic glazing material that resists breakage and creates no dangerous cutting edges when broken. Similar materials shall be used in wall openings of playrooms and exercise rooms unless otherwise required for fire safety. Glazing materials used for shower doors and bath enclosures shall be safety glass or plastic.

f. Threshold and expansion joint covers shall be flush with the floor surface to facilitate use of wheelchairs and carts.

g. Handwashing stations shall be located and arranged to permit proper use and operation. Particular care shall be taken to provide the required clearance for blade-type handle operation.

h. Provisions for hand drying shall be included at all handwashing stations except scrub sinks.

i. Radiation protection for ~~X~~x-ray and gamma ray installations shall comply with Section 7.10~~.~~12

j. The minimum ceiling height shall be 7 feet 10 inches (2.39 meters), with the following exceptions:

(1) Boiler rooms shall have ceiling clearances not less than 2 feet 6 inches (~~762 millimeters~~0.81 meter) above the main boiler header and connecting piping.

(2) Radiographic and other rooms containing ceiling-mounted equipment shall have ceilings of sufficient height to accommodate the equipment and/or fixtures.

(3) Ceiling~~s~~ height in corridors, storage rooms, toilet rooms, and other minor rooms shall not be less than 7 feet 8 inches (2.34 meters).

(4) Tracks, rails, and pipes suspended along the path of normal traffic shall be not less than 6 feet 8 inches (2.03 meters) above the floor.

k. Rooms containing heat-producing equipment (such as boiler or heater rooms) shall be insulated and ventilated to prevent occupied adjacent floor or wall surfaces from exceeding a temperature 10ºF ~~degrees~~ above the ambient room temperature.

9.2.~~H~~G2. Finishes shall comply with the following standards:

a. Cubicle curtains and draperies shall be noncombustible or flame-retardant and shall pass both the large- and small-scale tests required by NFPA 701.

b. Interior finish materials shall have flame-spread and smoke-production limitations as described in NFPA 101. Wall finishes less than 4 mil thick applied over a noncombustible material are not subject to flame-spread rating requirements.

c. Building insulation materials, unless sealed on all sides and edges, shall have a flame-spread rating of 25 or less and a smoke-developed rating of 150 or less when tested in accordance with NFPA 255.

d~~b~~. The flame-spread and smoke-developed ratings of finishes shall comply with Section 7.~~29~~ 32 and Table 9.1. Where possible, the use of materials known to produce large amounts of noxious gases shall be avoided.

e~~c~~. Floor materials shall be readily cleanable and appropriately wear-resistant. In all areas subject to wet cleaning, floor materials shall not be physically affected by liquid germicidal and cleaning solutions. Floors subject to traffic while wet, including showers and bath areas, shall have a nonslip surface.

f~~d~~. Wall finishes shall be washable and, in the proximity of plumbing fixtures, shall be smooth and moisture resistant.

g~~e~~. Wall bases in areas that are frequently subject to wet cleaning shall be monolithic and coved with the floor; tightly sealed to the wall; and constructed without voids.

h~~f~~. Floor and wall areas penetrated by pipes, ducts, and conduits shall be tightly sealed to minimize entry of rodents and insects. Joints of structural elements shall be similarly sealed.

9.2.~~I~~H. Relevant Codes and Standards ~~Design and Construction, Including Fire-Resistive Standards~~

~~9.2.I1.~~ Construction and structural elements of freestanding outpatient facilities shall comply with recognized model ~~-~~ building ~~-~~ code requirements for offices and ~~to~~ the standards contained herein. Outpatient facilities that are an integral part of ~~the~~ a hospital or that share common areas and functions with a hospital shall comply with the construction standards for general hospitals. See applicable sections of Chapter 7~~of this document for additional details~~.

~~**9.2.I2.** Interior finish materials shall have flame-spread and smoke-production limitations as described in NFPA 101. Wall finishes less than 4 mil thick applied over a noncombustible material are not subject to flame-spread rating requirements.~~

~~**9.2.I3.** Building insulation materials, unless sealed on all sides and edges, shall have a flame-spread rating of 25 or less and a smoke-developed rating of 150 or less when tested in accordance with NFPA 255.~~

9.2.~~J~~I. Provision for Disasters

Seismic ~~-~~ force resistance of new construction for outpatient facilities shall comply with Section 1.5 and

shall be given an importance factor of one. Where the outpatient facility is part of an existing building, that facility shall comply with applicable local codes. Special design provisions shall be made for buildings in regions that have sustained loss of life or damage to buildings from hurricanes, tornadoes, floods, or other natural disasters.

9.3 Primary Care Outpatient Center~~s~~

9.3.A. General

The primary care center provides comprehensive community outpatient medical services. The number and type of diagnostic, clinical, and administrative areas shall be sufficient to support the services and estimated patient load described in the program. All standards set forth in Sections 9.1 and 9.2 shall be met for primary care outpatient centers, with additions and modifications described herein. (See Section 9.4 for smaller care centers.)

9.3.B. Parking

Parking spaces for patients and family shall be provided at the rate of not less than two parking spaces for each examination and each treatment room. In addition, one space for each of the maximum number of staff persons on duty at any one shift ~~will~~ shall be provided. Adjustments, as described in Section 9.1.G, ~~should be made~~are permitted where public parking, public transportation, etc., reduces the need for on-site parking.

9.3.C. Administrative Services

Each outpatient facility shall make provisions to support administrative activities, filing, and clerical work as appropriate. (See also Section 9.2.A.) Service areas shall include:

9.3.C1. Office(s), separate and enclosed, with provisions for privacy.

9.3.C2. Clerical space or rooms for typing and clerical work separated from public areas to ensure confidentiality.

9.3.C3. Filing cabinets and storage for the safe and secure storage of patient records with provisions for ready retrieval.

9.3.C4. Office supply storage (closets or cabinets) within or convenient to administrative services.

9.3.C5. A staff toilet and lounge in addition to and separate from public and patient facilities.

9.3.C6. Multiuse rooms for conferences, meetings, and health education. One room may be primarily for staff use but also available for public access as needed. In smaller facilities, the room may also serve for consultation~~, etc~~and other purposes.

9.3.D. Public Areas

Public areas shall be situated for convenient access and designed to promote prompt accommodation of patient needs, with consideration for personal dignity.

9.3.D1. Entrances shall be well marked and at grade level. Where entrance lobby and/or elevators are shared with other tenants, travel to the outpatient unit shall be direct and accessible to the disabled. Except for passage through common doors, lobbies, or elevator stations, patients shall not be required to go through other occupied areas or outpatient service areas. Entrances shall be convenient to parking and ~~available~~ accessible via public transportation.

9.3.D2. A reception and information counter or desk shall be located to provide visual control of the entrance to the outpatient unit, and shall be immediately apparent from that entrance.

9.3.D3. The waiting area for patients and escorts shall be under staff control. The seating area shall contain not less than two spaces for each examination and/or treatment room. Where the outpatient unit has a formal pediatrics service, a separate, controlled area for pediatric patients shall be provided. Wheelchairs ~~within the waiting area will~~ shall be accommodated within the waiting area.

~~**9.3.D4.** Toilet(s) for public use shall be immediately accessible from the waiting area. In smaller units the toilet may be unisex and also serve for specimen collection.~~

9.3.D~~5~~4. Drinking fountains shall be available for waiting patients. In shared facilities, drinking fountains may be outside the outpatient area if convenient for use.

9.3.D~~6~~5. A control counter (may be part of the reception, information, and waiting room control) shall have access to patient files and records for scheduling of services.

9.3.E. Diagnostic

Provisions shall be made for ~~X~~x-ray and laboratory procedures as described in Sections 9.2.C and D. Services may be shared or provided by contract off-site. Each outpatient unit shall have appropriate facilities for storage and refrigeration of blood, urine, and other specimens. All standards set forth in Section 9.31 shall be met.

***9.3.F. Clinical Facilities**

9.4 Small Primary (Neighborhood) Outpatient Facility

9.4.A. General

Facilities covered under this section are often contained within existing commercial or residential buildings as "store-front" units, but they may also be ~~a~~ small, freestanding, new, or converted structures. The term *small structure* shall be defined as space and equipment serving four or fewer workers at any one time. The size of these units limits occupancy, thereby minimizing hazards and allowing for less stringent standards. Needed community services can therefore be provided at an affordable cost. ~~The term *small structure* shall be defined as space and equipment serving four or fewer workers at any one time.~~ Meeting all provisions of Section 9.2 for general outpatient facilities is desirable, but limited size and resources may preclude satisfying any but the basic minimums described. This section does not apply to outpatient facilities that are within a hospital, nor is it intended for the larger, more sophisticated units.

9.4.B. Location

The small neighborhood center is expected to be especially responsive to communities with limited income. It is essential that it be located for maximum accessibility and convenience. In densely populated areas, many of the patients might walk to services. Where a substantial number of patients rely on public transportation, facility location shall permit convenient access requiring a minimum of transfers.

9.4.C. Parking

Not less than one convenient parking space for each staff member on duty at any one time and not less than four spaces for patients shall be provided. Parking requirements may be satisfied ~~with~~ by street parking, or by a nearby public parking lot or garage. Where the facility is within a shopping center or similar area, customer spaces may meet parking needs.

9.4.D. Administration and Public Areas

9.4.D1. Public areas shall include:

a. A reception and information center or desk.

b. Waiting space, including provisions for wheelchairs.

~~c. Patient toilet facilities.~~

9.4.D2. An office area for business transactions, records, and other administrative functions, separate from public and patient areas, shall be provided.

9.4.D3. General storage facilities for office supplies, equipment, sterile supplies, and pharmaceutical supplies shall be provided.

9.4.D4. Locked storage (cabinets or secure drawers) convenient to work~~-~~stations shall be provided for staff valuables.

9.4.E. Clinical Facilities

9.4.E1. At least one examination room shall be available for each provider who may be on duty at any one time. Rooms may serve both as examination and treatment spaces (see Section 9.2.B1).

9.4.E2. A clean work area with a counter, handwashing station, and storage for clean supplies~~,~~ shall be provided. This may be a separate room or an isolated area.

9.4.E3. A soiled holding room shall be provided (see Section 9.2.B8).

9.4.E4. Sterile equipment and supplies shall be provided to meet functional requirements. Sterile supplies may be prepackaged disposables or processed off-site.

9.4.E5. Locked storage for biologicals and drugs shall be provided.

9.4.E6. A toilet room containing a ~~lavatory for~~ handwashing station shall be accessible from all examination and treatment rooms. Where a facility contains no more than three examination and/or treatment rooms, the patient toilet ~~may~~ shall be permitted to~~also~~ serve waiting areas.

9.4.F. Diagnostic Facilities

9.4.F1. The functional program shall describe where and how diagnostic services will be made available to the outpatient if ~~these~~ they are not offered within the facility. When provided within the facility, these services shall meet the standards of Section 9.2.

9.4.F2. Laboratory services and/or facilities shall meet the following standards:

a. Urine collection rooms shall be equipped with a water closet and ~~lavatory~~handwashing station. ~~Blood collection facilities shall have space for a chair and work counter. (~~The toilet room provided within the examination and treatment room ~~may~~ is permitted to be used for specimen collection.~~)~~

b. Blood collection facilities shall have space for a chair and work counter.

~~b~~c. Services shall be available within the facility or through a formal agreement or contract with a hospital or other laboratory for hematology, clinical chemistry, urinalysis, cytology, pathology, and bacteriology.

9.4.G. Details and Finishes

Construction and finishes may be of any type permitted for business occupancies as described in NFPA 101 and as specified herein.~~See Section 9.2.H.~~

9.4.H. Design and Construction

~~9.4.H1.~~ Every building and every portion thereof shall be designed and constructed to sustain all dead and live loads in accordance with accepted engineering practices and standards. If existing buildings are converted for use, consideration shall be given to the structural requirements for concentrated floor loadings, including ~~X~~x-ray equipment, storage files, and similar heavy equipment that may be added.

~~**9.4.H2.** Construction and finishes may be of any type permitted for business occupancies as described in NFPA 101 and as specified herein.~~

9.4.I. Mechanical Standards

The following shall apply for the small outpatient facility of this section in lieu of Section 9.31:

9.4.I1. Heating and ventilation systems shall meet the following standards:

a. A minimum indoor winter-design-capacity temperature of 75°F (24°C) shall be set for all patient areas. Controls shall be provided for adjusting temperature as appropriate for patient activities and comfort.

b. All occupied areas shall be ventilated by natural or mechanical means.

c. Air-handling duct systems shall meet the requirements of NFPA 90A.

9.4.I2. Plumbing and other piping systems shall meet the following standards:

a. Systems shall comply with applicable codes, be free of leaks, and be designed to supply water at sufficient pressure to operate all fixtures and equipment during maximum demand.

b. Backflow preventers (vacuum breakers) shall be installed on all water supply outlets to which hoses or tubing can be attached.

c. Water temperature at lavatories shall not exceed 110°F (43°C).

d. All piping registering temperatures above 110°F (43°C) shall be covered with thermal insulation.

9.4.J. Electrical Standards

The following shall apply to the small outpatient facility of this section in lieu of Section 9.32:

9.4.J1. Prior to completion and acceptance of the facility, all electrical systems shall be tested and operated to demonstrate that installation and performance conform to applicable codes and functional needs.

9.4.J2. Lighting shall be provided in all facility spaces occupied by people, machinery, and/or equipment, and in outside entryways. An examination light shall be provided for each examination and treatment room.

9.4.J3. Sufficient duplex grounded-type receptacles shall be available for necessary task performance. Each examination and work table area shall be served by at least one duplex receptacle.

9.4.J4. X-ray equipment installations, when provided, shall conform to NFPA 70.

9.4.J5. Automatic emergency lighting shall be provided in every facility that has a total floor area of more than 1,000 square feet (92.9 square meters), and in every facility requiring stairway exit.

***9.5 Outpatient Surgical Facility**

***9.5.A. General**

Note: When invasive procedures are performed on persons who are known or suspected of having airborne infectious disease, these procedures should not be performed in the operating suite. These procedures shall be performed in a room meeting airborne infection isolation ventilation requirements or in a space using local exhaust ventilation. If the procedure must be performed in the operating suite, see the CDC "Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health Care Facilities."

9.5.A1. The outpatient surgical facility shall be designed to facilitate movement of patients and personnel into, through, and out of defined areas within the surgical suite. Signs shall be provided at all entrances to restricted areas and shall clearly indicate the surgical attire required.

9.5.A2. The outpatient surgical facility shall be divided into three designated areas—unrestricted, semirestricted, and restricted—that are defined by the physical activities performed in each area.

9.5.A3. Outpatient surgery is performed without anticipation of overnight patient care. The functional program shall describe in detail staffing, patient types, hours of operation, function and space relationships, transfer provisions, and availability of off-site services.

9.5.A43. If the outpatient surgical facility is part of an acute-care hospital or other medical facility, service may be shared to minimize duplication as appropriate. Where outpatient surgical services are provided within the same area or suite as inpatient surgery, additional space shall be provided as needed. If inpatient and outpatient procedures are performed in the same room(s), the functional program shall describe in detail scheduling and techniques used to separate inpatients and outpatients.

9.5.A54. Visual and ~~audible~~ acoustical privacy ~~should~~ shall be provided by design and include the registration, preparation, examination, treatment, and recovery areas. See Section 1.6.

9.5.B. Size

The extent (number and types) of the diagnostic, clinical, and administrative facilities to be provided will be determined by the services contemplated and the estimated patient load as described in the functional program. Provisions shall be made for patient examination, medical and nursing assessment, nursig care, preoperative testing, and physical examination ~~interview, preparation testing, and obtaining vital signs of patient~~ for outpatient surgeries.

9.5.C. Parking
Four spaces for each room routinely used for surgical procedures plus one space for each staff member shall be provided. Additional parking spaces convenient to the entrance for pickup of patients after recovery shall be provided.

9.5.D. Administration and Public Areas
The following shall be provided:

***9.5.D1.** A covered entrance for pickup of patients after surgery.

~~**9.5.D2.** A lobby area including a waiting area, conveniently accessible wheelchair storage, a reception/information desk, accessible public toilet(s), public telephone(s), and drinking fountain(s).~~

9.5.D~~3~~2. Interview space(s) for private interviews relating to admission.

9.5.D~~4~~3. General and individual office(s) for business transactions, records, and administrative and professional staff. These shall be separate from public and patient areas with provisions for confidentiality of records. Enclosed office spaces shall be provided~~, consistent with need identified~~ in accordance with the functional program.

9.5.D~~5~~4. Multipurpose or consultation room(s).

9.5.D~~6~~5. A medical records area where medical documents can be secured.

9.5.D~~7~~6. Special storage, including locking drawers and/or cabinets, for staff personal effects.

9.5.D~~8~~7. General storage facilities.

9.5.E. Sterilizing Facilities
A system for sterilizing equipment and supplies shall be provided. When sterilization is provided off site, a room for the adequate handling (receiving and distribution) and on-site storage of sterile supplies ~~must~~ shall be provided that conforms to Section 9.5~~6~~.E3. ~~accommodated and shall meet the minimum requirements for on-site facilities.~~ Provisions shall be made for the ~~cleaning and~~ sanitizing of clean and soiled carts and/or vehicles, consistent with the needs of the particular transportation system. ~~transporting the supplies.~~ If on-site processing facilities are provided, they shall include the following:

9.5.E1. Soiled workroom. ~~This room shall be physically separated from all other areas of the department. Workspace shall be provided to handle the gross cleaning, cleaning, and disinfection of all medical/surgical instruments and equipment. The soiled workroom shall contain work surface(s), sink(s), flush type device(s), and washer/sterilizer decontaminators or other decontamination equipment as appropriate to the functional program.~~ This room (or soiled holding room that is part of a system for the collection and disposal of soiled material) is for the exclusive use of the surgical suite. It shall be located in the restricted area. The soiled workroom shall contain a flushing-rim clinical sink or equivalent flushing-rim fixture, a handwashing station, a work counter, and space for waste receptacles and soiled linen receptacles. Rooms used only for temporary holding of soiled material may omit the flushing-rim clinical sink and work counters. However, if the flushing-rim clinical sink is omitted, other provisions for disposal of liquid waste shall be provided. The room shall not have direct connection with operating rooms. Soiled and clean workrooms or holding rooms shall be separated. A pass-through door for decontaminated instruments is permitted between soiled and clean workrooms.

***9.5.E2.** Clean assembly/workroom. This room shall contain sterilization equipment. ~~This workroom~~ It shall contain a handwashing station, workspace, and equipment for terminal sterilizing of medical and surgical equipment and supplies. Clean and soiled work areas shall be physically separated. Access to ~~the sterilization~~this room shall be restricted. The clean assembly room shall have adequate space for the designated number of work areas as defined in the functional program as well as space for storage of clean supplies, sterilizer carriages (if used), and instrumentation.

9.5.E3. Clean/sterile supplies. Storage for packs, etc., shall include provisions for ventilation, humidity, and temperature control. The clean and sterile supply room shall have a minimum floor area of 100 net square feet (30.48 square meters) or 50 net square feet (15.24 square meters) per operating room, whichever is greater.

***9.5.F. Clinical Facilities**

9.5.F1. If patients will be admitted without recent and thorough examination, at least one room, ensuring both visual and acoustical privacy, shall be provided for examination and testing of patients prior to surgery, ~~assuring both visual and audible privacy~~. This may be an examination room or treatment room as described in Sections 9.2.B1 and 3.

9.5.F2. Ambulatory (outpatient) operating rooms.

*a. The size and location of the operating rooms shall be dependent on the level of care and equipment ~~based on~~specified in the functional program. ~~The levels of care are~~Operating rooms shall be as defined by the American College of Surgeons.

b. Class A operating rooms (minor surgical procedure rooms) shall have a minimum ~~clear~~ floor area of ~~120~~ 150 square feet (~~11.15~~45.72 square meters) ~~and~~with a minimum clear dimension of ~~10~~ 12 feet (~~3.05~~3.65 meters). There shall be a minimum clear distance of 3 feet, 6 inches (~~0.91~~1.07 meters) at each side, the head, and the foot of the operating table.

(1) ~~These m~~Minor surgical procedure rooms. These Class A operating rooms may be located within the restricted corridors of the surgical suite, or may be located in an unrestricted corridor adjacent to the surgical suite.

c. Class B operating rooms shall have a minimum ~~clear~~ floor area of 250 square feet (23.23 square meters) with a minimum clear dimension of 15 feet (4.57 meters). This square footage and minimum dimension shall exclude vestibule and fixed casework. Room arrangement ~~There~~ shall ~~be~~permit a minimum clearance of 3 feet, 6 inches (1.07 meters) at each side, the head, and the foot of the operating table.

(1) These intermediate surgical procedure rooms shall be located within the restricted corridors of the surgical suite.

d. Class C operating rooms shall have a minimum clear area of 400 square feet (37.16 square meters) and a minimum dimension of 18 feet (4.59 meters). This square footage and minimum dimension shall exclude vestibule and fixed casework. Room arrangement ~~There~~ shall ~~be~~permit a minimum clearance of 4 feet (1.22 meters) at each side, the head, and the foot of the operating table.

(1) These major surgical procedure rooms shall be located within the restricted corridors of the surgical suite.

*e. All operating rooms shall be equipped with an emergency communication system connected with the control station. There shall be at least one ~~X-ray film illuminator~~medical image viewer in each room. See Tables 7.2 and 9.1 for mechanical and medical gas requirements.

9.5.F3. Room(s) for post-anesthesia recovery of outpatient surgical facilities shall be provided in accordance with the functional program. A nurse utility/control station shall be provided with visualization of patients in acute recovery positions (not required in step-down recover area). Clearances noted around gurneys are between the normal use position of the gurney and any adjacent fixed surface, or between adjacent gurneys. In the absence of a formal needs analysis, the patient recovery position minimum requirements are as follows:

*a. ~~For minor surgical procedure rooms (Class A), a minimum of one recovery station per procedure room with a minimum clear area of 2 feet, 6 inches (0.76 meter) around the three sides of the stretcher or lounge chair for work and circulation.~~ Each post-anesthetic care unit (PACU) shall provide a minimum clear floor area of 80 square feet (7.43 square meters) for each patient bed with a space for additional equipment described in the functional program, and for clearance of at least 5 feet (1.52 meters) between patient stretchers and 4 feet (1.22 meters) between patient stretchers and adjacent walls (at the stretcher's sides and foot). Provisions for patient privacy such as cubicle curtains shall be made.

Handwashing stations with hands-free operable controls shall be available with at least one for every four stretchers or portion thereof, uniformly distributed to provide equal access from each patient position.

b. A patient toilet room shall be provided in the recovery area. In facilities with two or fewer operating rooms and an outpatient surgery change area that is located adjacent to the recovery area, the toilet required by Section 9.5.F5j shall be permitted to be used to meet this requirement.

~~b. For intermediate surgical procedure rooms (Class B), a minimum of two recovery stations per procedure room with a minimum clear area of 3 feet (0.91 meter) around the three sides of the stretcher for work and circulation.~~

~~c. For major surgical procedure rooms (Class C), a minimum of three recovery stations per procedure room with a minimum clear area of 4 feet (1.22 meters) around three sides of the stretcher for work and circulation.~~

c~~d~~. If pediatric surgery is part of the program, separation from the adult section and space for parents shall be provided. Sound attenuation of the area and the ability to view the patient from the nursing station shall be considered.

~~e. Up to one-half of the minimum required total recovery stations may be provided in the step-down recovery area described in 9.5.F4.~~

d~~f~~. The recovery areas shall include provisions for staff handwashing station, medication preparation and dispensing, supply storage, soiled linen and waste holding, charting and dictation, and dedicated space as needed to keep equipment (warming cabinet, ice machine, crash cart, etc.) out of required circulation clearances.

9.5.F4. ~~A designated supervised step-down recovery area shall be provided for patients who do not require post-anesthesia recovery but need additional time for their vital signs to stabilize before safely leaving the facility. These stations may account for up to one-half of those required under 9.5.F3. This area shall contain a clinical work space, space for family members, and provisions for privacy. It shall have convenient patient access to toilets large enough to accommodate a patient and an assistant.~~

~~Handwashing and nourishment facilities must be included.~~ A Phase II or step-down recovery room shall be provided. The room shall contain handwashing station(s), storage space for supplies and equipment, clinical work space, space for family members, and nourishment facilities. In addition, the design shall provide a minimum of 50 square feet (4.65 square meters) for each patient in a lounge chair with space for additional equipment described in the functional program and for clearance of 4 feet (1.22 meters) between the sides of the lounge chairs and the foot of the lounge chairs. Provisions for patient privacy such as cubicle curtains shall be made.

A patient toilet shall be provided with direct access to the Phase II recovery unit for the exclusive use of patients.

9.5.F5. The following services shall be provided in surgical service areas:

a. A control station located to permit visual surveillance of all traffic entering the restricted corridor (access to operating rooms and other ancillary clean/sterile areas).

b. A drug distribution station. Provisions shall be made for storage and preparation of medications administered to patients. A refrigerator for pharmaceuticals and double-locked storage for controlled substances shall be provided. Convenient access to handwashing stations shall be provided.

c. Scrub facilities. Station(s) shall be provided near the entrance to each operating room and may service two operating rooms if needed. Scrub facilities shall be arranged to minimize ~~incidental~~ splatter on nearby personnel or supply carts.

d. A ~~S~~soiled workroom. The soiled workroom shall contain a clinical sink or equivalent flushing-type fixture, a work counter, a handwashing station, and waste receptacle(s). This may be the same workroom described in Section 9.5.E1. The soiled workroom shall be located within the semirestricted area.

e. Fluid waste disposal facilities. These shall be convenient to the general operating rooms and post-anesthesia recovery positions. A clinical sink or equivalent equipment in a soiled workroom shall meet this requirement in the operating room area, and a toilet equipped with bedpan-cleaning device or a separate clinical sink shall meet the requirement in the recovery area.

f. Provisions ~~shall be made~~ for cleaning, testing, and storing anesthesia equipment and supplies as needed for the functional program. For Class C facilities, a dedicated anesthesia workroom shall be provided and shall contain a work counter, handwashing station, and storage for related anesthesia supplies. It shall be located within the semi-restricted area.

g. Medical gas supply and storage with space for reserve nitrous oxide and oxygen cylinders, if such gas(es) are used in the facility.

h. Equipment storage room(s) for equipment and supplies used in the surgical suite. The equipment and supply storage room shall have a minimum floor area of 100 net square feet (30.48 square meters) or 25 net square feet (7.62 square meters) per operating room, whichever is greater.

i. Staff clothing change areas. Appropriate change areas shall be provided for male and female staff working within the surgical suite. The areas shall contain lockers, showers, toilets, handwashing stations, and space for donning scrub attire. These areas shall be arranged to encourage a one-way traffic pattern so that personnel entering from outside the surgical suite can change and move directly into the surgical suite.

j. Outpatient surgery change areas. A separate area shall be provided for outpatients to change from street clothing into hospital gowns and to prepare for surgery. This area shall include lockers, toilet(s), clothing change or gowning area(s), and space for administering medications. Provisions shall be made for securing patients' personal effects.

k. A ~~S~~stretcher storage area. This area shall be convenient for use and out of the direct line of traffic.

l. Lounge and toilet facilities for surgical staff. These shall be provided in facilities having three or more operating rooms. The toilet room shall be ~~provided~~ near the recovery area.

m. A ~~H~~housekeeping room. Space containing a floor receptor or service sink and storage space for housekeeping supplies and equipment shall be provided exclusively for the surgical suite.

n. Space for temporary storage of wheelchairs.

o. Provisions for convenient access to and use of emergency resuscitation equipment and supplies (crash cart(s) and/or anesthesia carts) at both the surgical and recovery areas.

p. A high-speed sterilizer or other sterilizing equipment for immediate or emergency use, located in the restricted area.

q. A clean assembly/workroom as described in Sections 9.5.E and 9.5.E3.

r. At least one shower provided conveniently accessible to the surgical suite and recovery areas.
~~r. A patient toilet room shall be provided in the recovery area. In facilities with two or fewer operating rooms and an outpatient surgery change area that is located adjacent to the recovery area, the toilet required by Section 9.5.F5j shall be permitted to be used to meet this requirement.~~

9.5.G. Diagnostic Facilities
Diagnostic services shall be provided on- or off-site for pre-admission tests as required by the functional program.

9.5.H. Details and Finishes
In addition to ~~All details and finishes shall meet~~ the standards in Section 9.2.~~H~~G, the following guidelines shall be met ~~and below~~.

9.5.H1. Details shall conform to the following guidelines:

a. Minimum public corridor width shall be 5 feet (1.52meters), except that corridors in the operating room section, where patients are transported on stretchers or beds, shall be 8 feet (2.44 meters) wide. Passages and corridors used exclusively for staff access ~~may~~shall be a minimum of 44 inches (1.12 meters) in clear width.

b. The separate facility or section shall comply with the "New Ambulatory Health Care Centers" section of NFPA 101 and ~~as~~with the standards ~~described~~ herein. Where the outpatient surgical unit is part of another facility that does not comply with, or exceeds, the fire safety requirements of NFPA 101, there shall be not less than one-hour separation between the outpatient surgical unit and other sections. The outpatient surgical facility shall have not less than two exits to the exterior. Exits, finishes, separation for hazardous areas, and smoke separation shall conform to NFPA 101.

c. Toilet rooms for patient use in surgery and recovery areas ~~for patient use~~ shall be equipped with doors and hardware that permit access from the outside in emergencies. When such rooms have only one opening or are small, the doors shall open outward or be otherwise designed to open without pressing against a patient who may have collapsed within the room.

d. Flammable anesthetics shall not be used in outpatient surgical facilities.

e. Doors serving occupiable spaces shall have a minimum nominal width of 3 feet (0.91 meter), except doors requiring gurney/stretcher access, which shall have a nominal width of 3 feet, 8 inches (1.12 meters).

9.5.H2. Finishes shall conform to the following guidelines:

a. Ceiling finishes shall be appropriate for the areas in which they are ~~to be~~ located ~~in~~ and shall be as follows:

(1) Ceiling finishes in general areas are optional and may be omitted in mechanical and electrical rooms/spaces unless required for fire-resistive purposes. Suspended ceilings may be omitted in mechanical and electrical rooms/spaces unless required for fire safety purposes.

(2) Ceiling finishes in semirestricted areas such as clean corridors, central sterile supply spaces, specialized radiographic rooms, and minor surgical procedure rooms ~~must~~ shall be smooth, scrubbable, nonabsorptive, nonperforted, capable of withstanding cleaning with chemicals, and without crevices that can harbor mold and bacteria growth. If a lay-in ceiling is ~~provided~~used, it shall be gasketed or clipped down to prevent the passage of particles from the cavity above the ceiling plane into the semirestricted environment. Perforated, tegular, serrated, cut, or highly textured tiles ~~are~~shall not ~~acceptable~~ be used.

(3) Ceilings in restricted areas such as operating rooms shall be monolithic, scrubbable, and capable of withstanding chemicals. Cracks or perforations in these ceilings are not allowed.

b. Wall finishes shall be appropriate for the areas in which they are ~~to be~~ located ~~in~~ and shall be as follows:

(1) Wall finishes shall be cleanable.

(2) Wall finishes in areas such as clean corridors, central sterile supply spaces, specialized radiographic rooms, and minor surgical procedure rooms shall be washable, smooth, and ~~capable~~ able to ~~of~~ withstand~~ing~~ chemical cleaning.

(3) Wall finishes in areas such as operating rooms, delivery rooms, and trauma rooms shall be scrubbable, ~~capable of~~able to withstand~~ing~~ chemical cleaning, and ~~be~~ monolithic.

c. Floor finishes shall be appropriate for the areas in which they are ~~to be~~ located ~~in~~ and shall be as follows:

(1) Floor finishes shall be cleanable.

(2) Floor finishes in areas such as clean corridors, central sterile supply spaces, specialized radiographic rooms, and minor surgical procedure rooms shall be washable, smooth, and ~~capable of~~ able to withstand~~ing~~ chemical cleaning.

(3) Floor finishes in areas such as operating rooms, delivery rooms, and trauma rooms shall be scrubbable, ~~capable of~~able to withstand~~ing~~ chemical cleaning, and ~~be~~ monolithic, with an integral base.

9.5.I. Plumbing
See Section 9.31.

9.5.J. Electrical
See Section 9.32.

9.5.K. Fire Alarm System
A manually operated, electrically supervised fire alarm system shall be installed in each facility as described in NFPA 101.

9.5.L. Mechanical
Heating, ventilation, and air conditioning shall be as described for similar areas in Section 9.31 and Table 7.2, except that the recovery lounge need not be considered a sensitive area, and outpatient operating rooms may meet the standards for emergency trauma rooms. See Table 9.1 for filter efficiency standards.

9.6 Freestanding ~~Emergency~~ Urgent Care Facility

9.6.A. General
~~This section applies to the emergency facility that is separate from the acute-care hospital and that therefore requires special transportation planning to accommodate transfer of patients and essential services. The separate emergency facility provides expeditious emergency care where travel time to appropriate hospital units may be excessive. It may include provisions for temporary observation of patients until release or transfer.~~
~~Where hours of operation are limited, provisions shall be made in directional signs, notices, and designations to minimize potential for mistakes and loss of time by emergency patients seeking care during nonoperating hours.~~

~~Facility size, type, and design shall satisfy the functional program. In addition to standards in Sections 9.1 and 9.2, the following guidelines shall be met:~~

This section applies to facilities that provide emergent care to the public, but that are not part of licensed hospitals or are not freestanding emergency services as described in Section 7.11 or that do not provide care on a 24-hours-per-day, seven-days-per-week basis. Freestanding urgent care facilities should be distinguished from emergency departments that are part of a licensed hospital so the public will understand the level of care offered.

9.6.A.1. The facility shall post signs that clearly indicate the type and level of care offered and the hours of operation (if not 24 hours per day, seven days per week).

9.6.A.2. The facility shall post directional signs and information showing the nearest emergency department that is part of a licensed hospital.

9.6.B. Reserved~~Location~~
~~The emergency facility shall be conveniently accessible to the population served and shall provide patient transfer to appropriate hospitals. In selecting location, consideration shall be given to factors affecting source and quantity of patient load, including highway systems, industrial plants, and recreational areas.~~

~~Though most emergency patients will arrive by private cars, consideration should also be given to availability of public transportation.~~

9.6.C. Parking

Not less than one parking space for each staff member on duty at any one time and not less than two spaces for each examination and each treatment room shall be provided. Additional spaces shall be provided for emergency vehicles. Street, public, and shared lot spaces, if included as part of this standard, shall be exclusively for the use of the emergency facility. All required parking spaces shall be convenient to the emergency entrance.

9.6.D. Administrative and Public Areas

Administrative and public areas shall conform to the standards in Section 9.2.A, with the following additions.

9.6.D1. Entrances shall be well marked, illuminated, and covered to permit protected transfer of patients from ambulance and/or automobiles. If a platform is provided for ambulance use, a ramp for wheelchairs and stretchers shall be provided in addition to steps. Door(s) to ~~emergency services~~patient care rooms serving stretcher-borne patients shall be not less than 4 feet (1.22 meters) wide ~~to allow the passage of a stretcher and assistants~~. All the other doors to patient service areas shall be not less than 3 feet (0.91 meter) wide. The emergency entrance shall have vision panels to minimize conflict between incoming and outgoing traffic and to allow for observation of the unloading area from the control station.

9.6.D2. Lobby and waiting areas shall satisfy the following requirements:

a. Convenient access to wheelchairs and stretchers shall be provided at the emergency entrance.

b. Reception and information function may be combined or separate. These areas shall provide direct visual control of the emergency entrance, and access to the treatment area and the lobby. They shall include a public toilet with handwashing stations, and convenient telephone. Control stations will normally include triage function and shall be in direct communication with medical staff. Emergency entrance control functions shall include observation of arriving vehicles.

c. The emergency waiting area shall include provisions for wheelchairs and shall be separate from the area provided for scheduled outpatient service.

d. If so determined by the hospital ~~infection control risk assessment~~ICRA, the diagnostic imaging waiting area may require special consideration to reduce the risk of airborne infection transmission. In these circumstances, public waiting areas shall be designed, ventilated, and maintained with available technologies such as enhanced general ventilation and air disinfection techniques similar to inpatient requirements for airborne infection isolation rooms. See the "CDC "Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health Care Facilities."

9.6.D3. Initial interviews may be conducted at the triage reception/control area. Facilities for conducting interviews on means of reimbursement, social services, and personal data shall include provisions for acoustical privacy. These facilities ~~may~~ are permitted to be separate from the reception area but must be convenient to the emergency service waiting area.

9.6.D4. For standards concerning general and individual offices, see Section 9.2.A4.

~~**9.6.D5.** For standards concerning clerical space, see Section 9.2.A5.~~

9.6.D~~6~~5. Multipurpose room(s) shall be provided for staff conferences. This room may also serve for consultation.

9.6.D7.~~6~~ For standards concerning special storage, see Section 9.2.A~~6~~7.

9.6.D~~8~~7. For standards concerning general storage, see Section 9.2.A~~7~~8.

9.6.E. Clinical Facilities

In addition to the requirements of ~~See~~ Section 9.2.B, the following shall be provided~~: and, in addition, provide~~:

9.6.E1. A trauma/cardiac room~~.~~ for complex procedures as described in Section 9.5.F2 for the outpatient surgery unit. The trauma/cardiac room may be set up to accommodate more than one patient. Where the emergency trauma/cardiac room is set up for multipatient use, each patient area shall have a minimum clear area of 250 net square feet (76.2 square meters) excluding vestibule, toilet, closet, and fixed casework. Room arrangement shall permit a minimum clearance of 3 feet, 6 inches (1.07 meters) at each side, head, and foot of the bed. ~~there shall be not less than 180 square feet (16.72 square meters) per patient area, and there shall be u~~Utilities and services shall be provided for each patient. Provisions shall be included for patient privacy.

9.6.E2. In addition to wheelchair storage, a holding area for stretchers within the clinical area, away from traffic and under staff control.

9.6.E3. A poison control ~~service facilities~~ center with immediately accessible antidotes and a file of common poisons. Communication links with regional and/or national poison centers and regional EMS centers shall be provided. This service may be part of the nurses control and workstation.

9.6.E4. A nurses control and work ~~and control~~ station. This shall accommodate charting, files, and staff consultation activities. It shall be located to permit visual control of clinical area and its access. Communication links with the examination/treatment area, trauma/cardiac room, reception control, laboratory, radiology, and on-call staff shall be provided.

9.6.E5. A CPR emergency cart, away from traffic but immediately available to all areas, including entrance and receiving areas.

9.6.E6. Scrub stations at each trauma/cardiac room. Water and soap controls shall not require use of hands.

9.6.E7. At least two examination rooms and one trauma/cardiac room shall have a clear floor area of 120 net square feet (11.15 square meters) excluding vestibule, toilet, closet, and fixed casework (treatment room may also be utilized for examination). Room arrangement shall permit a minimum clearance of 3 feet, 6 inches (1.07 meters) at each side, head, and foot of the bed.

9.6.F. Radiology

Standards stipulated in Section 9.2.C shall be met during all hours of operation. Radiographic equipment shall be adequate for any part of the body including, but not limited to, fractures. Separate dressing rooms are not required for unit(s) used only for emergency procedures.

9.6.G. Laboratory
See Section 9.2.D for applicable standards. In addition, immediate access to blood for transfusions and provisions for cross-match capabilities shall be provided.

9.6.H. Employee Facilities
~~See Section 9.2.F for applicable standards. In addition, f~~Facilities for on-call medical staff shall be provided.

9.6.I. Observation
Facilities shall be provided for holding emergency patients until they can be discharged or transferred to an appropriate hospital. Size, type, and equipment shall be as required for anticipated patient load and lengths of stay. One or more examination/treatment rooms may be utilized for this purpose. Each observation bed shall permit:

9.6.I1. Direct visual observation of each patient from the nurses station, except where examination/treatment rooms are used for patient holding. View from the duty station may be limited to the door.

9.6.I2. Patient privacy.

9.6.I3. Access to patient toilets.

9.6.I4. Secure storage of patients' valuables and clothing.

9.6.I5. Dispensing of medication.

9.6.I6. Bedpan storage and cleaning.

9.6.I7. Provision of nourishment (see Section 7.2.B15). In addition, meal provisions shall be made for patients held for more than four hours during daylight.

9.6.J. Mechanical
See Section 9.31 for applicable mechanical standards.

9.6.K. Plumbing
See Section 9.31 for applicable plumbing standards.

9.6.L. Electrical
See Section 9.32 for applicable electrical standards.

***9.7 Freestanding Birthing Center**

The freestanding birthing center is "any health facility, place, or institution which is not a hospital and where births are planned to occur away from the mother's usual place of residence" (American Public Health Association, 1982).

All standards set forth in Sections 9.1 and 9.2 shall be met for new construction of birthing centers, with modifications described herein. Birthing rooms shall have available oxygen, vacuum, and medical air per Table 7.5, LDRP rooms.

9.7.A. Parking

Parking spaces for ~~the~~ client~~s~~ and famil~~y~~ies shall be provided at a rate of not less than two for each birth room. In addition, one space for each of the maximum number of staff persons on duty at any given time ~~will~~ shall be provided. Adjustments, as described in Section 9.1.G, ~~should be made~~are permitted where public parking, public transportation, etc., reduce the need for on-site parking.

9.7.B. Administrative and Public Areas

9.7.B1. Entrance~~:~~. The entrance to the birthing center shall be at ground level, well marked and illuminated. Provisions shall be made for emergency vehicle access.

9.7.B2. Provisions for the disabled~~:~~. See Section 1.4.

9.7.B3. Public areas. These areas shall include:

a. A reception area with facility to accommodate outdoor wear.

b. A family room with a designated play area for children.

c. Child-proof electrical outlets.

d. A nourishment area for families to store and serve light refreshment of their dietary and cultural preferences. The area shall include a sink and counter space, range, oven or microwave, refrigerator, cooking utensils, disposable tableware or dishwasher, storage space, and seating area.

e. Convenient access to toilet and handwashing stations.

f. Convenient access to telephone service.

g. Convenient access to drinking fountain or potable drinking water with disposable cup dispenser.

9.7.B4. Staff area~~:~~. A secure storage space for personal effects, toilet, shower, change, and lounge area sufficient to accommodate staff needs shall be provided.

9.7.B5. Records~~:~~. Space for performing administrative functions, charting, and secure record storage shall be provided.

9.7.B6. Drugs and biologicals~~:~~. An area for locked storage for drugs and refrigeration for biologicals (separate from the nourishment area refrigerator) shall be provided.

9.7.B7. Clean storage~~:~~. A separate area for storing clean and sterile supplies shall be provided.

9.7.B8. Soiled holding~~:~~. Provisions shall be made for separate collection, storage, and disposal of soiled materials. Fluid waste may be disposed of in the toilet adjacent to the birth room.

9.7.B9. Sterilizing facilities~~:~~. Sterile supplies may be prepackaged disposables or processed off-site. If instruments and supplies are sterilized on-site, an area for accommodation of sterilizing equipment appropriate to the volume of the birth center shall be provided.

9.7.B10. Laundry~~:~~. Laundry ~~M~~may be done on- or off-site. If on-site, an area for laundry equipment with

counter and storage space shelving shall be provided. Depending on size and occupancy of center, ordinary household laundry equipment may be provided. (Soiled laundry shall be held in the soiled holding area until deposited in the washer.)

9.7.C. Clinical Facilities
As needed, the following elements shall be provided for clinical services to satisfy the functional program.

9.7.C1. Birthing rooms~~:~~. A minimum of two birthing rooms with storage space sufficient to accommodate belongings of occupants, bedding, equipment, and supplies needed for a family-centered childbirth shall be provided.

a. Birthing rooms shall be adequate in size to accommodate one patient, her family, and attending staff. For new construction, a minimum clear floor area of 160 net square feet (48.76 square meters) shall be provided with a minimum dimension of 11 feet (3.35 meters), excluding vestibule, toilet, closet, and fixed casework. Room arrangement shall permit a minimum clearance of 3 feet (0.91 meter) at each side, head, and foot of the bed. ~~A minimum floor area of 160 square feet (14.86 square meters) for new construction will be provided with a minimum dimension of 11 feet (3.25 meters).~~ For renovation, a minimum floor area of 120 square feet (11.15 square meters) excluding vestibule, toilet, and closets ~~will be provided~~ with a minimum dimension of 10 feet (3.05 meters) shall be provided.

b. An area for equipment and supplies for routine and remedial newborn care, separate from the equipment supplies for maternal care, shall be provided in each birthing room ~~in built-in cabinets, closets, or furniture~~.

c. ~~Medicant~~Medicine, syringes, specimen containers, and instrument packs shall be contained in storage areas not accessible to children.

d. The plan for the birthing room shall be such that it will permit ~~the need for~~ emergency transfer by stretcher unimpeded.

9.7.C2. Toilet and bathing facilities~~:~~. ~~t~~Toilet, ~~sink~~handwashing station, and bath/shower facilities with appropriately placed grab bars shall be adjacent to each birthing room. Bath/shower facilities shall be shared by not more than two birthing rooms.

9.7.C3. Scrub areas~~:~~. Handwashing stations with hands-free faucets shall be ~~located~~ conveniently accessible to the birthing rooms.

9.7.C4. Emergency equipment~~:~~. An area for maternal and newborn emergency equipment and supplies (carts or trays) shall be designated out of the direct line of traffic and conveniently accessible to the birthing rooms.

9.7.C5. Communication~~:~~. Each birthing room shall be equipped with a system for communicating to other parts of the center and to an outside telephone line.

9.8 Freestanding Outpatient Diagnostic and Treatment Facility

***9.8.A. General**
This section applies to the outpatient diagnostic and treatment facility that is separate from the acute-care hospital. This facility is a new and emerging form of outpatient center ~~which~~ that is capable of providing a wide array of outpatient diagnostic services and minimally invasive procedures.

The general standards for outpatient facilities set forth in Sections 9.1 and 9.2 shall be met for the freestanding outpatient diagnostic and treatment facility, with two modifications.

9.8.A1. For those facilities performing diagnostic imaging and minimally invasive interventional procedures, all provisions of Section 7.~~10~~12~~, General Hospital–Imaging Suite,~~ shall also apply, except that adjacencies to emergency, surgery, cystoscopy, and outpatient clinics are not required.

9.8.A2. For those facilities performing nuclear medicine procedures, all provisions of Section 7.~~11~~14~~, Nuclear Medicine,~~ shall also apply, except that support services such as radiology, pathology, emergency department, and outpatient clinics are not required.

9.9 Gastrointestinal Endoscopy ~~Suite~~Facility

The endoscopy suite may be divided into three major functional areas: the procedure room(s), instrument processing room(s), and patient holding/preparation and recovery room or area. All standards set forth in Sections 9.31 and 9.32 shall be met for new construction of endoscopy suites with modifications described in Section 9.9.

Note: When ~~invasive~~ procedures are to be performed ~~in this unit~~ on persons who are known or suspected of having airborne infectious diseases, these procedures ~~should not be performed in the operating suite. These procedures~~ shall be performed only in a room meeting airborne infection isolation ventilation requirements or in a space using local exhaust ventilation. ~~If the procedure must be performed in the operating suite, s~~See also the CDC "Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Facilities."

*9.9.A. General

The endoscopy suite shall be designed to facilitate movement of patients and personnel into, through, and out of defined areas within the procedure suite. Signs shall be provided at all entrances to restricted areas and shall clearly indicate the proper attire required.

The outpatient procedure facility shall be divided into three designated areas—unrestricted, semirestricted, and restricted—that are defined by the physical activities performed in each area.

Endoscopy is performed without anticipation of overnight patient care. The functional program shall describe in detail staffing, patient types, hours of operation, function and space relationships, transfer provisions, and availability of offsite services.

If the endoscopy suite is part of an acute-care hospital or other medical facility, service may be shared to minimize duplication as appropriate. Where endoscopy services are provided within the same area or suite as surgical services, additional space shall be provided as needed. If inpatient and outpatient procedures are performed in the same room(s), the functional program shall describe in detail scheduling and techniques used to separate inpatients and outpatients.

Visual and acoustical privacy should be provided by design and include the registration, preparation, examination, treatment, and recovery areas.

9.9.B. Size

The extent (number and types) of the diagnostic, clinical, and administrative facilities to be provided will be determined by the services contemplated and the estimated patient load as described in the functional

program. Provisions shall be made for patient examination, interview, preparation testing, and obtaining vital signs of patients for endoscopic procedures.

9.9.C. Parking
Four spaces for each room routinely used for endoscopy procedures plus one space for each staff member shall be provided. Additional parking spaces convenient to the entrance for pickup of patients after recovery shall be provided.

9.9.D. Administration and Public Areas
The following shall be provided:

9.9.D1. A covered entrance for pickup of patients after surgery; such roof overhang or canopy shall extend, at a minimum, to the face of the driveway or curb of the passenger access door of the transport vehicle. Vehicles in the loading area shall not block or restrict movement of other vehicles in the drive or parking areas immediately adjacent to the facility.

9.9.D2. A lobby area, including a waiting area, conveniently accessible wheelchair storage, a reception/information desk, accessible public toilet(s), public telephone(s), and drinking fountain(s).

9.9.D3. Interview space(s) for private interviews relating to admission.

9.9.D4. General and individual office(s) for business transactions, records, and administrative and professional staff. These shall be separate from public and patient areas with provisions for confidentiality of records. Enclosed office spaces shall be provided, consistent with need identified in the functional program.

9.9.D5. Multipurpose or consultation room(s).

9.9.D6. A medical records area where medical documents can be secured.

9.9.D7. Special storage, including locking drawers and/or cabinets, for staff personal effects.

9.9.D8. General storage facilities.

9.9.E. Storage and Holding Areas
Adequate space shall be provided for the storage and holding of clean and soiled materials. Such areas shall be separated from unrelated activities and controlled to prohibit public contact.

9.9.E1. Soiled holding/workroom. This room shall be physically separated from all other areas of the department. The soiled workroom shall contain work surface(s), sink(s), flush-type device(s), and holding areas for trash, linen, and other contaminated waste.

9.9.E2. Clean/sterile supplies. Storage for packs, etc., shall include provisions for ventilation, humidity, and temperature control.

***9.9.F. Clinical Facilities**

9.9.F1. If patients will be admitted without recent and thorough examination, at least one room shall be provided for examination and testing of patients prior to their procedures, ensuring both visual and acoustical privacy. This may be an examination room or treatment room as described in Sections 9.2.B1

and 3.

9.9.F2. Procedure Suite

a. Each procedure room shall have a minimum clear floor area of 200 square feet (15 square meters) excluding vestibule, toilet, closet, fixed cabinets, and built-in shelves. Room arrangement shall permit a minimum clearance of 3 feet, 6 inches at each side, head, and foot of the stretcher/table.

b. A separate dedicated handwashing station with hands-free controls shall be available in the suite.

c. Station outlets for oxygen and vacuum (suction) shall be available. See Table 9.2.

d. Floor covering shall be monolithic and joint free.

e. A system for emergency communication shall be provided.

f. Procedure rooms shall be designed for visual and acoustical privacy for the patient. Direct access may be provided to a patient toilet room.

9.9.G. Instrument Processing Room(s)

9.9.G1. Dedicated processing room(s) for cleaning and disinfecting instrumentation shall be provided. In an optimal situation, cleaning room(s) should be located between two procedure rooms. However, one processing room may serve multiple procedure rooms. Size of the cleaning room(s) is dictated by the amount of equipment to be processed.

Cleaning rooms should allow for flow of instrumentation from the contaminated area to the clean area, and finally, to storage. The clean equipment rooms, including storage, should protect the equipment from contamination.

9.9.G2. The decontamination room should be equipped with the following:

a. Utility sink(s), as appropriate to the method of decontamination used. This may require soaking sink(s), rinse sink(s), automated cleaning device(s), or a combination.

b. One freestanding handwashing station.

c. Work counter space(s).

d. Space and plumbing fixtures for automatic endoscope cleaners, sonic processor, and flash sterilizers (where required).

e. Ventilation system. Negative pressure shall be maintained and a minimum of 10 air changes per hour shall be maintained. A hood is recommended over the work counter. All air should be exhausted to the outside to avoid recirculation within the facility.

f. Provision for vacuum and/or compressed air, as appropriate to cleaning methods used.

g. Floor covering, monolithic and joint free.

9.9.H. Patient Holding/Prep/Recovery Area
The following shall be provided in this area:

9.9.H.1. Oxygen and suction per Table 9.2. This shall be provided for each patient cubicle and shall meet the size requirements of a step-down recovery area, Section 9.5.F3.a.

9.9.H.2. Cubicle curtains for patient privacy.

9.9.H.3. Medication preparation and storage with handwashing stations.

9.9.H.4. Toilet facilities (may be accessible from patient holding or directly from procedure room(s) or both).

9.9.H.5. Change areas and storage for patients' personal effects.

9.9.H.6. Nurses reception and charting area with visualization of patients.

9.9.H.7. Clean utility room or area.

9.9.H.8. Janitor/housekeeping closet.

9.9.I. Procedural Service Areas
The following shall be provided:

9.9.I.1. Fluid waste disposal facilities. These shall be convenient to the procedure rooms and recovery positions. A clinical sink or equivalent equipment in a soiled workroom shall meet this requirement in the procedure area, and a toilet equipped with bedpan-cleaning device or a separate clinical sink shall meet this requirement in the recovery area.

9.9.I.2. Provisions for cleaning, testing, and storing anesthesia equipment and supplies.

9.9.I.3. Medical gas supply and storage with space for reserve nitrous oxide and oxygen cylinders, if such gas(es) are used in the facility.

9.9.I.4. Equipment storage room(s) for equipment and supplies used in the procedure suite.

9.9.I.5. Staff clothing change areas. Appropriate change areas shall be provided for staff working within the procedure suite. The areas shall contain lockers, toilets, handwashing stations, and space for changing clothes.

9.9.I.6. Patient clothing change areas. A separate area shall be provided for patients to change from street clothing into hospital gowns and to prepare for procedures. This area shall include lockers, toilet(s), clothing change or gowning area(s), and space for administering medications. Provisions shall be made for securing patients' personal effects.

9.9.I.7. Stretcher storage area. This area shall be convenient for use and out of the direct line of traffic.

9.9.I.8. Lounge and toilet facilities for surgical staff. These shall be provided in facilities having three or more procedure rooms.

9.9.I.9. Housekeeping room. Space containing a floor receptor or service sink and storage space for housekeeping supplies and equipment shall be provided.

9.9.I.10. Space for temporary storage of wheelchairs.

9.9.I.11. Provisions for convenient access to and use of emergency resuscitation equipment and supplies (crash cart(s) and/or anesthesia carts) at both the procedure and recovery areas.

9.9.J. Diagnostic Facilities
Diagnostic services shall be provided on- or off-site for pre-admission tests as required by the functional program.

9.9.K. Details and Finishes
All details and finishes shall meet the standards in Section 9.2.G and below.

9.9.K1. Details shall conform to the following guidelines:

a. Minimum public corridor width shall be 5 feet (1.52 meters), except that corridors where patients are transported on stretchers or beds shall be 8 feet (2.44 meters) wide. Passages and corridors used exclusively for staff access may be 44 inches (1.12 meters) in clear width.

b. The separate facility or section shall comply with the "New Ambulatory Health Care Centers" section of NFPA 101 and as described herein. Where the outpatient endoscopy unit is part of another facility that does not comply with, or exceeds, the fire safety requirements of NFPA 101, there shall be not less than one-hour separation between the outpatient surgical unit and other sections. The outpatient surgical facility shall have not less than two exits to the exterior. Exits, finishes, separation for hazardous areas, and smoke separation shall conform to NFPA 101.

c. Toilet rooms in procedure and recovery areas for patient use shall be equipped with doors and hardware that permit access from the outside in emergencies. When such rooms have only one opening or are small, the doors shall open outward or be otherwise designed to open without pressing against a patient who may have collapsed within the room.

d. Flammable anesthetics shall not be used in outpatient endoscopy facilities.

e. Doors serving occupiable spaces shall have a minimum nominal width of 3 feet (0.91 meter), except doors requiring gurney/stretcher access, which shall have a nominal width of 3 feet, 8 inches (1.12 meters).

9.9.K2. Finishes shall conform to the following guidelines:

a. Ceiling finishes shall be appropriate for the areas in which they are located and shall be as follows:

(1) Ceiling finishes in general areas are optional and may be omitted in mechanical and electrical rooms/spaces unless required for fire-resistive purposes.

(2) Ceiling finishes in procedure rooms, the decontamination room, and other semirestricted areas shall be capable of withstanding cleaning with chemicals, and without crevices that can harbor mold and bacteria growth. If a lay-in ceiling is provided, it shall be gasketed or clipped down to prevent the passage of

particles from the cavity above the ceiling plane into the semirestricted environment. Perforated, tegular, serrated, cut, or highly textured tiles are not acceptable.

b. Wall finishes shall be appropriate for the areas in which they are located and shall be as follows:

(1) Wall finishes shall be cleanable.

(2) Wall finishes in areas such as clean corridors, central sterile supply spaces, specialized radiographic rooms, and minor surgical procedure rooms shall be washable, smooth, and capable of withstanding chemical cleaning.

(3) Wall finishes in areas such as procedure rooms shall be scrubbable, capable of withstanding chemical cleaning, and monolithic.

c. Floor finishes shall be appropriate for the areas in which they are located and shall be as follows:

(1) Floor finishes shall be cleanable.

(2) Floor finishes in areas such as clean corridors and patient care areas shall be washable, smooth, and capable of withstanding chemical cleaning.

(3) Floor finishes in areas such as procedure rooms and the decontamination room shall be scrubbable, capable of withstanding chemical cleaning, and monolithic with an integral base.

9.9.L. Plumbing
See Section 9.31.

9.9.M. Electrical
See Section 9.32.

9.9.N. Fire Alarm System
A manually operated, electrically supervised fire alarm system shall be installed in each facility as described in NFPA 101.

9.9.O. Mechanical
Heating, ventilation, and air conditioning shall be as described for similar areas in Section 9.31 and Table 7.2, except that the recovery lounge need not be considered a sensitive area.

~~**9.9.A. Procedure Room(s)**~~

~~***9.9.A1.** Each procedure room shall have a minimum clear area of 200 square feet (15 square meters) exclusive of fixed cabinets and built-in shelves.~~

~~**9.9.A2.** A freestanding handwashing station with hands-free controls shall be available in the suite.~~

~~**9.9.A3.** Station outlets for oxygen, vacuum (suction), and medical air. See Table 9.2.~~

~~**9.9.A4.** Floor covering shall be monolithic and joint free.~~

~~**9.9.A5.** A system for emergency communication shall be provided.~~

9.9.A6. Procedure rooms shall be designed for visual and acoustical privacy for the patient.

9.9.B. Instrument Processing Room(s)

9.9.B1. Dedicated processing room(s) for cleaning and disinfecting instrumentation must be provided. In an optimal situation, cleaning room(s) should be located between two procedure rooms. However, one processing room may serve multiple procedure rooms. Size of the cleaning room(s) is dictated by the amount of equipment to be processed.

Cleaning rooms should allow for flow of instrumentation from the contaminated area to the clean area, and finally, to storage. The clean equipment rooms, including storage, should protect the equipment from contamination.

9.9.B2. The decontamination room should be equipped with the following:

a. Utility sink(s), as appropriate to the method of decontamination used. This may require soaking sink(s), rinse sink(s), automated cleaning device(s), or a combination.

b. One freestanding handwashing station.

c. Work counter space(s).

d. Space and plumbing fixtures for automatic endoscope cleaners, sonic processor, and flash sterilizers (where required).

e. Ventilation system. Negative pressure shall be maintained and a minimum of 10 air changes per hour shall be maintained. A hood is recommended over the work counter.) All air should be exhausted to the outside to avoid recirculation within the facility.

f. Provision shall be made for vacuum and/or compressed air, as appropriate to cleaning methods used.

g. Floor covering, monolithic and joint free.

9.9.B3. Patient Holding/Prep/Recovery Area

The following elements should be provided in this area:

a. Each patient cubicle shall be provided with oxygen and suction per Table 9.2 and shall meet the size requirements of a step-down recovery area, Section 9.5.F3.b., unless general anesthesia is administered, when size shall comply with Section 9.5.F3.c.

b. Cubicle curtains for patient privacy.

c. Medication preparation and storage with handwashing stations.

d. Toilet facilities (may be accessible from patient holding or directly from procedure room(s) or both).

e. Change areas and storage for patients' personal effects.

~~f. Nurses reception and charting area with visualization of patients.~~

~~g. Clean utility room or area.~~

~~h. Janitor/housekeeping closet.~~

9.10 Cough-Inducing and Aerosol-Generating Procedures

Rooms used for sputum induction, aerosolized pentamidine treatments, or other cough-inducing procedures shall meet the requirements of Table 7.2 for airborne infection room ventilation ~~requirements~~. If booths are used, refer to Section 7.~~15~~18.

9.11 Psychiatric Outpatient Center

9.11.A. General
The psychiatric outpatient center provides community outpatient psychiatric services. The number and type of diagnostic, clinical, and administrative areas shall be sufficient to support the services and estimated patient load described in the program. All standards set forth in Sections 9.1 and 9.2 shall be met for psychiatric outpatient centers, with the additions and modifications described herein. In no way are these standards to be interpreted to inhibit placing small neighborhood psychiatric outpatient centers into existing commercial and residential facilities; that is, units with four or fewer employees.

9.11.B. Parking
Parking spaces for patients and family shall be provided to meet the functional program~~.~~

9.11.C. Administrative Services
Each psychiatric outpatient center shall make provisions to support administrative activities, filing, and clerical work as appropriate. (See also Section 9.2.A.) Service areas shall include the following:

9.11.C1. Interview space(s) for private interviews related to social service, credit, etc. Interviews may take place in an office or consultation room if the program so indicates.

9.11.C2. Office(s), separate and enclosed, with provisions for privacy.

9.11.C3. Clerical space or rooms for typing and clerical work separated from public areas to ensure confidentiality.

9.11.C4. Records room(s) with filing and storage for the safe and secure storage of patient records with provisions for ready retrieval.

9.11.C5. Office supply storage (closets or cabinets) within or convenient to administrative services.

9.11.C6. A staff toilet and lounge in addition to and separate from public and patient facilities.

9.11.C7. Multiuse room(s) for conferences, meetings, and health education. One room may be primarily for staff use but also available for public access as needed. If the program so indicates, these functions may take place in group room(s).

9.11.D. Public Areas
Public areas shall be situated for convenient access and designed to promote prompt accommodation of

patient needs, with consideration for personal dignity.

9.11.D1. Entrances shall be well marked, at grade level and secured at least at the psychiatric outpatient unit. Where entrance lobby and/or elevators are shared with other tenants, travel to the psychiatric outpatient unit shall be direct and accessible to the disabled. Except for passage through common doors, lobbies, or elevator stations, patients shall not be required to go through other occupied areas or outpatient service areas. Entrance shall be convenient to parking and available via public transportation.

9.11.D2. A reception and information counter or desk shall be located to provide visual control of the entrance to the psychiatric outpatient unit and shall be immediately apparent from that entrance.

9.11.D3. The waiting area for patients and escorts shall be under staff control. The seating shall contain not less than two spaces for consultation room and not less than 1.5 spaces for the combined projected capacity at one time of the group rooms. Where the psychiatric outpatient unit has a formal pediatrics service, a separate, controlled area for pediatric patients shall be provided. The waiting area shall accommodate wheelchairs.

9.11.D4. Toilet(s) for public use shall be immediately accessibly to the waiting area. In smaller units, the toilet may be unisex.

9.11.D5. Drinking fountains shall be available for waiting patients. In shared facilities, drinking fountains may be outside the outpatient area if convenient for use.

9.11.D6. A control counter (may be part of the reception, information, and waiting room control) shall have access to patient files and records for scheduling of services.

9.11.E. Diagnostic Services
Facilities shall be provided only for those services specified in the functional program. Facilities provided shall meet the requirements of the specific diagnostic service and the standards set forth in Section 9.31.

9.11.F. Clinical Services
Facilities shall be provided only for those services specified in the functional program. Following are service areas that shall be strongly considered in any psychiatric outpatient center:

9.11.F1. Consultation room(s).

9.11.F2. Small group room(s).

9.11.F3. Large group room(s). These may also be used for activities.

9.11.F4. Observation room(s). See Section 9.2.B4.

9.11.F5. Nurses' station(s). See Section 9.2.B5.

9.11.F6. Drug distribution center. See Section 9.2.B6.

9.11.F7. Kitchenette(s). These may be located by the large group room(s).

9.11.F8. Clean storage. See Section 9.2.B7.

9.11.F9. Soiled holding. See Section 9.2.B8.

9.11.F10. Wheelchair storage space. See Section 9.2.B10.

9.11.G. Staff Facilities
Centralized staff facilities are not required in small centers; see Section 9.11.C6.

9.11.H. Details and Finishes
The standards set forth in Section 9.2.G shall be met with the additions and modifications described herein:

9.11.H1. The level of patient safety and security shall be set by the owner in their program.

9.11.H2. There shall be observation on all public areas including corridors; this can be accomplished by electronic surveillance if it is not obtrusive. Niches and hidden areas in corridors shall be prohibited.

9.11.H3. If the functional program determines suicide or staff safety risks are present, ceilings, walls, floors, windows, etc., shall be tamper-resistant in patient treatment areas. In addition, any rods, doors, grab bars, handrails, etc., shall be constructed so they do not allow attempts at suicide and cannot be used as weapons.

9.11.H4. Cubicle curtains and draperies shall not be used where risk assessment of the functional program dictates.

9.12 Renal Dialysis (Acute and Chronic) Center

9.12.A. General

9.12.A1. The number of dialysis stations shall be based upon the functional program and may include several work shifts per day.

9.12.A2. The location shall offer convenient access for outpatients. Accessibility to the unit from parking and public transportation shall be a consideration.

9.12.A3. Space and equipment shall be provided as necessary to accommodate the functional programs, which may include outpatient dialysis, home treatment support, and dialyzer reuse.

9.12.B. Treatment Area

9.12.B1. The treatment area may be an open area and shall be separate from administrative and waiting areas.

9.12.B2. Nurses' station(s) shall be located within the dialysis treatment area and designed to provide visual observation of all patient stations.

9.12.B3. Individual patient treatment areas shall contain at least 80 square feet (7.44 square meters). There shall be at least a 4-foot (1.22-meter) space between beds and/or lounge chairs.

9.12.B4. Handwashing stations shall be convenient to the nurses' station and patient treatment areas. There shall be at least one handwashing station serving no more than four stations. These shall be uniformly distributed to provide equal access from each patient station.

9.12.B5. The open unit shall be designed to provide privacy for each patient.

9.12.B6. The number of and need for required airborne infection isolation rooms shall be determined by an ICRA. Where required, the airborne infection isolation room(s) shall comply with the requirements of Section 7.2.C.

9.12.B7. If required by the functional program, there shall be a medication dispensing station for the dialysis center. A work counter and handwashing stations shall be included in this area. Provisions shall be made for the controlled storage, preparation, distribution, and refrigeration of medications.

9.12.B8. If home training is provided in the unit, a private treatment area of at least 120 square feet (11.15 square meters) shall be provided for patients who are being trained to use dialysis equipment at home. This room shall contain counter, handwashing stations, and a separate drain for fluid disposal.

9.12.B9. An examination room with handwashing stations and writing surface shall be provided with at least 100 square feet (9.29 square meters).

9.12.B10. A clean workroom shall be provided. If the room is used for preparing patient care items, it shall contain a work counter, a handwashing station, and storage facilities for clean and sterile supplies. If the room is used only for storage and holding as part of a system for distribution of clean and sterile materials, the work counter and handwashing station may be omitted. Soiled and clean workrooms or holding rooms shall be separated and have no direct connection.

9.12.B11. A soiled workroom shall be provided and contain a flushing-rim sink, handwashing station, work counter, storage cabinets, waste receptacles, and a soiled linen receptacle.

9.12.B12. If dialyzers are reused, a reprocessing room shall be provided and sized to perform the functions required. It shall include one-way flow of materials from soiled to clean with provisions for a refrigeration (temporary storage or dialyzer) decontamination/cleaning areas, sinks processors, computer processors and label printers, packaging area, and dialyzer storage cabinets.

9.12.B13. If a nourishment station for the dialysis service is provided, it shall contain a sink, a work counter, a refrigerator, storage cabinets, and equipment for serving nourishments as required.

9.12.B14. An environmental services closet shall be provided adjacent to and for the exclusive use of the unit. The closet shall contain a floor receptor or service sink and storage space for housekeeping supplies and equipment.

9.12.B15. If required by the functional program, an equipment repair and breakdown room shall be equipped with a handwashing station, deep service sink, work counter, and storage cabinet.

9.12.B16. Supply areas or supply carts shall be provided.

9.12.B17. Storage space shall be available for wheelchairs and stretchers, if stretchers are provided, out of direct line of traffic.

9.12.B18. If blankets or other linen is used, a clean linen storage area shall be provided. This may be within the clean workroom, a separate closet, or an approved distribution system. If a closed cart system is used, storage may be in an alcove. It must be out of the path of normal traffic and under staff control.

9.12.B19. Each facility using a central batch delivery system shall provide, either on the premises or through written arrangements, individual delivery systems for the treatment of any patient requiring special dialysis solutions. The mixing room shall also include a sink, storage space, and holding tanks.

9.12.B20. The water treatment equipment shall be located in an enclosed room.

9.12.B21. A patient toilet with handwashing stations shall be provided.

***9.12.B22.** Piping.
All dialysis system piping shall be readily accessible for inspection and maintenance. Design consideration shall be given to the disposal of liquid waste from the dialyzing process to prevent odor and backflow.

9.12.C. Ancillary Facilities

9.12.C1. Appropriate area(s) shall be available for staff clothing change area and lounge. The area shall contain lockers, shower, toilet, and handwashing stations.

9.12.C2. Storage for patients' belongings shall be provided.

9.12.C3. A waiting room, toilet room with handwashing stations, drinking fountain, public telephone, and seating accommodations for waiting periods shall be available or accessible to the dialysis unit.

9.12.C4. Office and clinical work space shall be available for administrative services.

9.13 Office Surgical Facility

9.13.A. Definitions
An outpatient surgical facility is an outpatient facility that has within it physician office(s) and space(s) for the performance of invasive procedures. Facilities that may have more than three patients rendered incapable of self-preservation without assistance from others shall meet requirements of Section 9.5.

9.13.B. Size
The number and type of diagnostic, clinical, and administrative facilities to be provided will be determined by the services contemplated and the estimated patient load as described in the functional program.

9.13.C. Sterilizing Facilities
A system for sterilizing equipment and supplies shall be provided. When sterilization is provided off site, adequate handling (receiving and distribution) and on-site storage of sterile supplies must be accommodated and shall meet the minimum requirements for on-site facilities. Provisions shall be made for the cleaning and sanitizing of clean and soiled carts and vehicles transporting supplies.

If on-site processing facilities are provided, they shall include the following:

9.13.C1. Soiled workroom. This room shall be physically separated from all other areas of the facility. Workspace shall be provided to handle the cleaning and the gross cleaning, debridement, and disinfections of all medical/surgical instruments and equipment. The soiled workroom shall contain work surfaces(s), sink(s), and washer/sterilizer decontaminators, flush-type devices(s), or other decontamination equipment as appropriate to the functional program.

9.13.C2. Clean/assembly workroom. This workroom shall have a handwashing station and shall contain appropriate and sufficient work space and equipment for terminal sterilizing of medical and surgical equipment and supplies. Clean and soiled work areas shall be physically separated. The clean assembly room shall have adequate space for the designated number of work areas as defined in the functional program.

9.13.C3. Clean/sterile supplies. Storage for packs, etc., shall include provisions for ventilation, humidity, and temperature control. A system for sterilizing equipment and supplies shall be provided. When sterilization is provided off site, adequate handling and on-site storage of sterile supplies shall be provided. Provision shall be made for cleaning and sanitizing of carts and vehicles used for transporting supplies.

Space shall be provided for handling and storage of soiled materials and equipment separate from areas designated for storage of clean and sterile materials and equipment. Appropriate receptacles for biohazardous waste shall be provided, and these shall be placed in the designated soiled storage area.

9.13.D. Clinical Facilities

9.13.D1. Operating rooms. Each facility shall have at least one operating room. Operating rooms shall have a minimum clear floor area of 150 square feet (45.72 meters) and a minimum clear dimension of 10 feet (3.04 meters). There shall be a minimum clear distance of 3 feet (0.91 meter) at the head, at the foot, and at each side of the operating table.

9.13.D2. Post-operative recovery. Post-operative recovery may be conducted in the operating room or in a specifically designated space. An operating room may be used by no more than one patient at a time. If located in a specifically designated space, the following shall be provided:

a. The recovery station shall be located in direct visual contact with a nurse station.

b. Cubicle curtains or other provisions for privacy during post-operative care shall be provided.

9.13.D3. Support facilities. The following shall be immediately accessible to the aaoperating room(s):

a. Space for crash cart, including outlets for battery charging.

b. Hands-free scrub station(s) outside of but near the entrance to each operating room. One scrub station may service two operating rooms if needed. Scrub station(s) shall be arranged to minimize incidental splatter on nearby personnel or supply carts. The scrub station may be used for the handwashing station requirements of immediately adjacent area(s).

c. Drug distribution station. Provisions shall be made for storage and preparation of medications administered to patients. A refrigerator for pharmaceuticals and double-locked storage for controlled substances shall be provided. Convenient access to handwashing stations shall be provided.

d. Soiled handling/storage area, including provision for disposal of fluid waste.

e. Clean storage area, including space for preparing instruments and supplies for surgery.

f. Medical gas supply.

g. Staff clothing change area

9.13.E. Details and Finishes

9.13.E1. Items such as drinking fountains, telephone booths, vending machines, etc., shall not restrict corridor traffic or reduce the corridor width below the required minimum. Out-of-traffic storage space for portable equipment shall be provided.

9.13.E2. The minimum nominal door width for patient use shall be 3 feet (0.91 meter) except that doors requiring gurney/stretcher access (as defined by the functional program) shall have a nominal width of 44 inches (1.11 meters).

9.13.E3. Toilet room doors for patient use shall open outward or be equipped with hardware that permits access from the outside in emergencies.

9.13.E4. Wall bases in operating rooms and areas that are frequently subject to wet cleaning shall be monolithic and coved directly up from the floor, tightly sealed to the wall, and constructed without voids. Seam welds in sheet flooring shall utilize manufacturer's weld product recommendations. Vinyl composition tile (VCT) or similar products shall not be permitted in these areas.

9.13.E5. Floor and wall areas penetrated by pipes, ducts, and conduits shall be tightly sealed to minimize entry of rodents and insects.

9.13.E6. Wall finishes in operating room(s) shall be scrubbable, able to withstand harsh chemical cleaning, and monolithic.

9.13.E7. Ceiling finishes in general areas are optional and may be omitted in mechanical and electrical rooms/spaces unless required for fire-resistive purposes.

9.13.E8. Ceiling finishes in operating rooms shall be smooth, washable, nonabsorptive, nonperforated, able to withstand cleaning with chemicals, and without crevices that can harbor mold and bacteria growth. If a lay-in ceiling is provided, it shall be gasketed or clipped down to prevent the passage of particles from the cavity above the ceiling plane into the semirestricted environment. Perforated, tegular, serrated, cut, or highly textured tiles shall not be permitted.

9.14-9.29 Reserved

9.30 Special Systems

9.30.A. General

9.30.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.

9.30.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.

9.30.A3. Insulation shall be provided surrounding special system equipment to conserve energy, protect

personnel, and reduce noise.

9.30.B. Elevators

9.30.B1. 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. Cars shall have a minimum inside floor dimension of not less than 5 feet (1.52 meters).

b. Elevators shall be equipped with a two-way automatic level-maintaining device with an accuracy of ±1/2 inch (±12.7 millimeters).

c. Elevator call buttons 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.

d. Elevator controls, alarm buttons, and telephones shall be accessible to wheelchair occupants and usable by the blind.

9.30.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.

9.30.C. Waste Processing Services

9.30.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.

9.30.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. Recovery of waste heat. See appendix.

*e. Environmental/health risk assessments for permit applications. See appendix.

9.30.C3. Nuclear ~~W~~waste ~~D~~disposal. See *Code of Federal Regulations*, title X, parts 20 and 35, concerning the handling and disposal of nuclear materials in health care facilities.

9.31 Mechanical Standards

Note: These requirements do not apply to small primary (neighborhood) outpatient facilities or outpatient facilities that do not perform invasive applications or procedures. See Section 9.4.I.

9.31.A. General

***9.31.A1.** The mechanical system ~~should~~ shall be designed for overall efficiency and life cycle costing. 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.~~

~~**9.31.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.~~

~~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.).~~

~~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.~~

~~Use of mechanically circulated outside air does not reduce the need for filtration.~~

9.31.A2~~3~~. Facility design consideration shall include site, building mass, orientation, configuration, fenestration, and other features relative to passive and active energy systems.

~~**9.31.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.).~~

~~**9.31.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.~~

***9.31.A36.** 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 the need for filtration.)~~

~~It may be practical in many areas to reduce or shut down mechanical ventilation during appropriate climatic and patient care conditions and to use open windows for ventilation.~~

9.31.A74. Mechanical equipment, ductwork, and piping shall be mounted on vibration isolators as required to prevent unacceptable structure-borne vibration.

9.31.A85. 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.

9.31.A96. Upon completion of the 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 properly operating systems and equipment. Required information shall include energy ratings as needed for future conservation calculations.

9.31.B. Thermal and Acoustical Insulation

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

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

9.31.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.

9.31.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.

9.31.B5. Duct linings exposed to air movement shall not be used in ducts serving operating rooms, delivery rooms, LDR rooms, and critical care units. This requirement shall not apply to mixing boxes and acoustical traps that have special coverings over such lining.

9.31.B6. Existing accessible insulation within areas of facilities to be modernized shall be inspected, repaired, and/or replaced, as appropriate.

9.31.B7. Duct lining shall not be installed within 15 feet (4.57 meters) downstream of humidifiers.

9.31.B8. All return air ventilation systems in patient care areas of outpatient surgery facilities shall be ducted.

9.31.C. Steam and Hot Water Systems

9.31.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. Their number and arrangement shall accommodate facility needs despite the breakdown or routine maintenance of any one boiler. The capacity of the remaining boiler(s) shall be sufficient to provide hot water service for clinical, dietary, and patient use; steam for sterilization and dietary purposes; and heating for operating, delivery and birthing, labor, recovery, and intensive care. However, reserve capacity for facility space heating is not required in geographic areas where a design dry-bulb temperature of 25°F (-4°C) or more represents not less than 99 percent of the total hours in any one heating month as noted in ASHRAE's *Handbook of Fundamentals* under the "Table for Climatic Conditions for the United States."

9.31.C2. Boiler accessories, including feed pumps, heat-circulating pumps, condensate return pumps, fuel oil pumps, and waste heat boilers, shall be connected and installed to provide both normal and standby service.

9.31.D. Heating, Ventilation, and Air Conditioning~~, Heating, and Ventilation~~ Systems

9.31.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. ~~T~~Although natural window ventilation for nonsensitive and patient areas may be employed, weather permitting, availability of mechanical ventilation ~~should~~ shall be considered for use in interior areas and during periods of temperature extremes. 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. To maintain asepsis control, airflow supply and exhaust ~~should~~ shall ~~generally~~ be controlled to ensure general movement of air from "clean" to "less clean" areas, especially in critical areas. 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.

9.31.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 possible in place of dilution ventilation to reduce exposure to hazardous gases, vapors, fumes, or mists.~~Exhaust systems may be combined to enhance the efficiency of recovery devices required for energy conservation. Local exhaust systems shall be used whenever possible in place of dilution ventilation to reduce exposure to hazardous gases, vapors, fumes, or mists. Airborne infection isolation rooms shall not be served by exhaust systems incorporating a heat wheel.

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.

9.31.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.~~ The requirement for a 25-foot (7.62-meter) separation also pertains to the distance between the intake and the exhaust and/or gas vent off of packaged rooftop units.

9.31.D4. In new construction and major renovation work, air supply for operating rooms shall be from ceiling outlets near the center of the work area. Return air shall be near the floor level, at a minimum. Return air shall be permitted high on the walls, in addition to the low returns. Each operating and delivery room shall have at least two return-air inlets located as ~~remotely~~ far from each other as practical. ~~(Design should consider t~~Turbulence and other factors of air movement shall be considered to minimize the fall of particulates onto sterile surfaces.~~)~~ Temperature shall be individually controlled for each operating room. During unoccupied hours, operating room air change rates may be reduced, provided that the positive room pressure is maintained as required in Table 7.2. Operating room ventilation systems shall operate at all times, except during maintenance and conditions requiring shutdown by the building's fire alarm system.

9.31.D5. ~~Air supply for rooms used for invasive procedures shall be at or near the ceiling. Return or exhaust air inlets shall be near the floor level. Exhaust grills for anesthesia evacuation and other special applications shall be permitted to be installed in the ceiling.~~Where anesthesia scavenging systems are required by Section 9.31.D6, air supply shall be at or near the ceiling. Return or exhaust air inlets shall be near the floor level.

***9.31.D6.** Each space routinely used for administering inhalation anesthesia and inhalation analgesia shall be served by a scavenging system to vent waste gases. If a vacuum system is used, the gas-collecting system shall be arranged so that it does not disturb patients' respiratory systems. Gases from the scavenging system shall be exhausted directly to the outside. The anesthesia evacuation system may be combined with the room exhaust system, provided that the part used for anesthesia gas scavenging exhausts directly to the outside and is not part of the recirculation system. Scavenging systems are not required for areas where gases are used only occasionally, such as the emergency department, offices for routine dental work, etc. Acceptable concentrations of anesthetizing agents are unknown at this time. The absence of specific data makes it difficult to set specific standards. However, any scavenging system should be designed to reduce ambient concentrations of waste gases to safe levels. See appendix for additional information. It is assumed that anesthetizing equipment will be selected and maintained to minimize leakage and contamination of room air.

9.31.D7. The bottoms of ventilation (supply/return) openings shall be at least 3 inches (76.2 millimeters) above the floor.

9.31.D8. All central ventilation or air conditioning systems shall be equipped with filters with efficiencies equal to, or greater than, those specified in Table 9.1. Where two filter beds are required, filter bed no. 1 shall be located upstream of the air conditioning equipment and filter bed no. 2 shall be downstream of any fan or blowers. 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, including hoods requiring HEPA filters. Provisions shall be made to allow access for field testing.

***9.31.D9.** 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 ~~of~~ for condensation ~~moisture condensing~~ inside the duct. Humidifiers shall be connected to airflow proving switches that prevent humidification unless the required volume of airflow is present or high~~-~~-limit humidistats are provided. All duct takeoffs ~~should~~ 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.

9.31.D10. Air-handling duct systems shall be designed with accessibility for duct cleaning~~,~~ and shall meet the requirements of NFPA 90A.

9.31.D11. Ducts that penetrate construction intended to protect against ~~X~~x-ray, magnetic, RFI, or other radiation shall not impair the effectiveness of the protection.

9.31.D12. 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~~in accordance with NFPA 90A~~, 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.

9.31.D13. Hoods and safety cabinets may be used for normal exhaust of a space provid~~in~~ged minimum air change rates are maintained. If air change standards in Table 7.2 do not provide sufficient air for proper operation of exhaust hoods and safety cabinets (when in use), makeup air (filtered and preheated) ~~should~~ shall be provided around these units to maintain the required airflow direction and exhaust velocity. Use of makeup air will avoid dependence upon infiltration from outdoor and/or from contaminated areas. Makeup systems for hoods shall be arranged to minimize "short circuiting" of air and to avoid reduction in air velocity at the point of contaminant capture.

9.31.D14. Laboratory fume hoods shall meet the following general standards:

a. Have an average face~~-~~ velocity of at least 90 to 110 feet per minute (0.45 to 0.56 meters per second).

b. Be connected to an exhaust system to the outside ~~which~~ that is separate from the building exhaust system.

c. Have an exhaust fan located at the discharge end of the system.

d. Have an exhaust duct system of noncombustible corrosion-resistant material as needed to meet the planned usage of the hood.

9.31.D15. Laboratory hoods shall meet the following special standards:

a. Fume hoods, and their associated equipment in the air stream, intended for use with perchloric acid and other strong oxidants, shall be constructed of stainless steel or other material consistent with special exposures, and be provided with a water wash and drain system to permit periodic flushing of duct and hood. Electrical equipment intended for installation within such ducts shall be designed and constructed to resist penetration by water. Lubricants and seals shall not contain organic materials. When perchloric acid or other strong oxidants are only transferred from one container to another, standard laboratory fume hoods and the associated equipment may be used in lieu of stainless steel construction.

b. In new construction and major renovation work, each hood used to process infectious or radioactive materials shall have a minimum face velocity of 90 to 110 feet per minute (0.45 to 0.56 meters per second) with suitable pressure-independent air-modulating devices and alarms to alert staff of fan shutdown or loss of airflow. Each shall also have filters with a 99.97 percent efficiency ~~[~~(based on the ~~dioctyl phthalate (~~DOP~~)~~ test method~~]~~) in the exhaust stream, and be designed and equipped to permit the safe removal, disposal, and replacement of contaminated filters. Filters shall be as close to the hood as practical to minimize duct contamination. Fume hoods intended for use with radioactive isotopes shall be constructed of stainless steel or other material suitable for the particular exposure and shall comply with NFPA 801, *Facilities for Handling Radioactive Materials*. **Note**: Radioactive isotopes used for injections, etc., without probability of airborne particulates or gases may be processed in a clean-workbench-type hood where acceptable to the Nuclear Regulatory Commission.

9.31.D16. 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. Each horizontal duct run shall have at least one cleanout opening. ~~(~~Horizontal runs of ducts serving range hoods ~~should~~ shall be kept to a minimum.~~)~~

9.31.D17. The ventilation system for anesthesia storage rooms shall conform to the requirements of NFPA 99, including the gravity option. Mechanically operated air systems are optional in this room.

9.31.D18. The ventilation system for the space that houses ~~ethylene oxide (~~ETO~~)~~ sterilizers should be designed to:

a. Provide a dedicated (not connected to a return air or other exhaust system) exhaust system. Refer to 29 CFR Part 1910.1047.

b. All source areas shall be exhausted, including the sterilizer equipment room, service/aeration areas, over the sterilizer door, and the aerator. If the ETO cylinders are not located in a well-ventilated, unoccupied equipment space, an exhaust hood shall be provided over the cylinders. The relief valve shall be terminated in a well-ventilated, unoccupied equipment space, or outside the building. If the floor drain to which the sterilizer(s) discharges ~~to~~ is not located in a well-ventilated, unoccupied equipment space, an exhaust drain cap shall be provided (coordinate with local codes).

c. Ensure that general airflow is away from sterilizer operator(s).

d. Provide a dedicated exhaust duct system for ETO. The exhaust outlet to the atmosphere ~~should~~ shall be at least 25 feet (7.62 meters) away from any air intake.

e. Provide ~~A~~an audible and ~~visual~~ visible alarm that shall activate in the sterilizer work area, and in a 24-

hour staffed location, upon loss of airflow in the exhaust system.

9.31.D19. Rooms with fuel-fired equipment shall be provided with sufficient outdoor air to maintain equipment combustion rates and to limit workstation temperatures.

9.31.D20. Gravity exhaust may be used, where conditions permit, for nonpatient areas such as boiler rooms, central storage, etc.

9.31.D21. The energy-saving potential of variable air volume systems is recognized, and the~~se~~ 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.

9.31.D22. Rooms used for sputum induction, aerosolized pentamidine treatments, or 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~~18.E.

9.31.D23. 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 air requirements shall be met by a separate central air handling system with the proper filtration, as noted in Table 9.1.

9.31.D24. Rooms where gluteraldehyde is used shall be maintained at a negative pressure with respect to surrounding areas, unless dictated otherwise for specific rooms in Table 7.2. In lieu of special ventilation, a certified, filtered recirculating hood designed for gluteraldehyde shall be permitted.

9.31.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*.

9.31.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 shall be permitted.~~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 are not permitted~~)~~.

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.

9.31.E2. The following standards shall apply to potable water supply systems:

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~~ Where 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 or backflow prevention devices 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~~d. Potable water storage vessels (hot and cold) not intended for constant use shall not be installed.

e. Systems shall be protected against cross-connection in accordance with American Water Works Association (AWWA) Recommended Practice for Backflow Prevention and Cross-connection Control.

f. Emergency eyewash and showers shall comply with ANSI Z358.1.

9.31.E3. The following standards shall apply to hot water systems:

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~~may 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. Non-recirculated fixture branch piping shall not exceed 25 feet (7.62 meters) in length.

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

d. Dead-end piping (risers with no flow, branches with no fixture) shall not be installed. In renovation projects, dead-end piping shall be removed. Empty risers, mains, and branches installed for future use shall be permitted.

9.31.E4. The following standards shall apply to drainage systems:

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~~ shall be of carefully selected material that will eliminate the 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 operating and delivery rooms, nurseries, 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 and delivery rooms.

*e. If a floor drain is installed in cystoscopy, it shall contain a nonsplash, horizontal-flow flushing bowl beneath the drain plate.

~~f. 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.~~

~~g~~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.

~~h~~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.

~~i~~h. Where plaster traps are used, provisions shall be made for appropriate access and cleaning.

~~j~~i. In dietary areas, floor drains and/or floor sinks shall be of a type that can be easily cleaned by remov~~a~~ling ~~of~~the cover. ~~Provide f~~Floor drains or floor sinks shall be provided at all "wet" equipment (as ice machines) and as required for wet cleaning of floors. ~~Provide r~~Removable stainless steel mesh shall be provided in addition to grilled drain covers to prevent entry of large particles of waste ~~which~~ that 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.

9.31.E5. If piped medical gas is used, the installation, testing, and certification of nonflammable medical gas and air systems shall comply with the requirements of NFPA 99. Station outlets shall be provided consistent with need established by the functional program. (See Table 9.2.)

9.31.E6. Where the functional program requires, central clinical vacuum system installations shall be in accordance with NFPA 99.

9.31.E7. All 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.

9.31.E8. Where the functional program includes hemodialysis, continuously circulated filtered cold water shall be provided. Piping shall be in accordance with AAMI RD6.2.

9.31.E9. ~~Provide c~~Condensate drains for cooling coils shall be of a type that may be cleaned as needed without disassembly. (Unless specifically required by local authorities, traps are not required for condensate drains.) ~~Provide~~An air gap shall be provided where condensate drains empty into floor drains. ~~Provide h~~Heater elements shall be provided for condensate lines in freezers or other areas where freezing may be a problem.

9.31.E10. No plumbing lines ~~may~~ shall 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.

9.32 Electrical Standards

9.32.A. General

9.32.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.

9.32.A2. The electrical installations, including alarm 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.

9.32.A3. Data processing and/or automated laboratory or diagnostic equipment, if provided, ~~such equipment~~ may require safeguards from power line disturbances.

9.32.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.

9.32.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.

9.32.D. Lighting

***9.32.D1.** Lighting shall be engineered to the specific application.

9.32.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 latest edition of the *IES Handbook*.

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

9.32.D4. ~~Consideration should be given to the~~As required by the functional program, special needs for the elderly shall be incorporated into the lighting design. Excessive contrast in lighting levels that makes

effective sight adaptation difficult ~~should~~ shall be minimized.

9.32.D5. A portable or fixed examination light shall be provided for examination, treatment, and trauma rooms.

9.32.D6. Operating and delivery rooms shall have general lighting in addition to special lighting units provided at surgical and obstetrical tables. General lighting and special lighting shall be on separate circuits.

9.32.D7. Operating rooms shall have general lighting in addition to special lighting units provided at surgical tables. General lighting and special lighting shall be on separate circuits.

9.32.D8. Light intensity of required emergency lighting shall generally comply with the IES recommendations. Egress and exit lighting shall comply with NFPA 101.

9.32.E. Receptacles (Convenience Outlets)

Duplex grounded-type receptacles (convenience outlets) shall be installed in all areas in sufficient quantities for tasks to be performed as needed. Each examination and work ~~-~~table shall have access to a minimum of two duplex receptacles.

9.32.F. Equipment

9.32.F1. At inhalation anesthetizing locations, all electrical equipment and devices, receptacles, and wiring shall comply with applicable sections of NFPA 99 and NFPA 70.

9.32.F2. Fixed and mobile ~~X~~x-ray equipment installations shall conform to articles 517 and 660 of NFPA 70.

9.32.F3. Special equipment is identified in the following subsections of this chapter: Clinical Facilities, Radiology, and Laboratory. These sections shall be consulted to ~~as~~ensure compatibility between programmatically defined equipment needs and appropriate power and other electrical connection needs.

9.32.G. Nurse Call System
Reserved.

9.32.H. Emergency Electrical Service
Emergency lighting and power shall be provided for in accordance with NFPA 99, NFPA 101, and NFPA 110.

9.32.I. Fire Alarm System
Any fire alarm system shall be as required by NFPA 101 and installed per NFPA 72.

9.32.J. Telecommunications and Information Systems

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

9.32.J2. A space shall be provided for central equipment locations. Special air conditioning and voltage regulation shall be provided when recommended by the manufacturer.