

12. MOBILE, TRANSPORTABLE, AND RELOCATABLE UNITS

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

12.1 General

12.1.A. Definitions

12.1.A1. Mobile unit: Any pre-manufactured structure, trailer, or self-propelled unit, equipped with a chassis on wheels and intended to provide shared medical services to the community on a temporary basis. These units are typically 8 feet wide by 48 feet long (2.44 meters by 14.63 meters) (or less), some equipped with expanding walls, and designed to be moved on a daily basis.

12.1.A2. Transportable unit: Any pre-manufactured structure or trailer, equipped with a chassis on wheels, intended to provide shared medical services to the community on an extended temporary basis. The units are typically 12 feet wide by 60 feet long (3.66 meters by 18.29 meters) (or less) and are designed to move periodically, depending on need.

12.1.A3. Relocatable unit: Any structure, not on wheels, built to be relocated at any time and provide medical services. These structures vary in size.

***12.1.BA. Application**

This section applies to mobile, transportable, and relocatable structures. 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. These facilities shall be defined as space and equipment service for 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. When invasive procedures are performed in a mobile unit, all units shall be provided with handwashing stations. Specifically described are:

12.1.**AB1**. Mobile units.

12.1.**BA2**. Transportable units.

12.1.**BA3**. Relocatable units.

~~12.1.B. Definitions~~

~~12.1.B1. Mobile unit: Any pre-manufactured structure, trailer, or self-propelled unit, equipped with a chassis on wheels and intended to provide shared medical services to the community on a temporary basis. These units are typically 8 feet wide by 48 feet long (2.44 meters by 14.63 meters) (or less), some equipped with expanding walls, and designed to be moved on a daily basis.~~

~~12.1.B2. Transportable unit: Any pre-manufactured structure or trailer, equipped with a chassis on wheels, intended to provide shared medical services to the community on an extended temporary basis.~~

~~The units are typically 12 feet wide by 60 feet long (3.66 meters by 18.29 meters) (or less) and are designed to move periodically, depending on need.~~

~~12.1.B3. Relocatable unit: Any structure, not on wheels, built to be relocated at any time and provide medical services. These structures vary in size.~~

12.1.C. Occupancy Classification

The classifications of these facilities shall be Business Occupancy as listed in the building codes and NFPA 101 Life Safety Code.

~~Units shall comply with NFPA 101, where patients incapable of self-preservation or those receiving inhalation anesthesia are treated.~~

12.1.D. Common Elements for Mobile, Transportable, and Relocatable Units

12.1.D1. Site conditions.

- a. Access for the unit to arrive shall be taken into consideration for space planning. Turning radius of the vehicles, slopes of the approach (6 percent maximum), and existing conditions shall be addressed.
- b. Gauss fields of various strengths of magnetic resonance imaging (MRI) units shall be considered for the environmental effect on the field homogeneity and vice versa. Radio frequency interference shall be considered when planning a site.
- c. Sites shall be provided with properly sized power, including emergency power, water, waste, telephone, and fire alarm connections, as required by local and state building codes.
- d. Sites shall have level concrete pads or piers and be designed for the structural loads of the facility. Construction of pads shall meet local, state, and seismic codes. Concrete-filled steel pipe bollards are recommended for protection of the facility and the unit.
- e. Sites utilizing MRI systems shall consider providing adequate access for cryogen-servicing of the magnet. Cryogen dewars are of substantial weight and size. Storage of dewars also shall be included in space planning.
- f. It is recommended that each site provide a covered walkway or enclosure to ensure patient safety from the outside elements.
- g. Consideration shall be given to location of the unit so that diesel exhaust of the tractor and/or unit generator is kept away from the fresh air intake of the facility.
- h. Each facility shall provide a means of preventing unit movement, either by blocking the wheels or by providing pad anchors.
- i. Sites shall provide hazard-free drop-off zones and adequate parking for patients.

j. The facility shall provide waiting space for patient privacy and patient/staff toilets as close to the unit docking area as possible.

k. Each site shall provide access [to the unit](#) for wheelchair/stretchers patients ~~to the unit~~.

l. Mobile units ~~providing where~~ noninvasive procedures ~~are performed~~ shall be provided with handwashing stations unless each site can provide handwashing stations within ~~a 25-foot~~ (7.47 meters) ~~proximity to~~ the unit. Transportable and relocatable units shall be provided with handwashing stations.

m. It is recommended that each site requiring water and waste services to the unit provide a means of freeze protection in geographical areas where freezing temperatures occur.

12.1.D2. Site considerations—relocatable units. Seismic force resistance for relocatable units shall comply with Section 1.5 and shall be given an importance factor of one when applied to the seismic design formulas. These units shall meet the structural requirements of the local and state building codes.

12.1.E. General Standards for Details and Finishes for Unit Construction

12.1.E1. Existing facilities. Existing facilities shall comply with applicable requirements of the existing Business Occupancies, Chapter 27, of NFPA 101, ~~and where there are~~ patients incapable of self-preservation ~~are~~ receiving inhalation anesthesia, ~~existing Ambulatory Health Care Centers, Chapter 13-6 Ambulatory Health Care Occupancy, Chapter 21 of NFPA 101~~, shall apply.

12.1.E2. Details and finishes. Requirements below apply to all units unless noted otherwise:

a. Horizontal sliding doors and power-operated doors shall comply with NFPA 101.

b. Units shall be permitted a single means of egress as permitted by NFPA 101.

c. All glazing in doors shall be safety or wire glass.

d. Stairs for mobile and transportable units shall be in accordance with the following table:

New units

Minimum width clear of all obstructions, except projections not exceeding 3-1/2 inches at or below handrail height on each side	34 inches (863.6 millimeters)
Minimum headroom	6 feet 8 inches (2.03 meters)
Maximum height of risers	9 inches (228.6 millimeters)

Minimum height of risers	4 inches (101.6 millimeters)
Minimum tread depth	9 inches (228.6 millimeters)
Doors opening immediately onto stairs without a landing	NO

Existing units

Minimum width clear of all obstructions, except projections not exceeding 3-1/2 inches at or below handrail height on each side	27 inches (.69 meter)
Minimum headroom	6 feet 8 inches (2.03 meters)
Maximum height of risers	9 inches (228.6 millimeters)
Minimum height of risers	4 inches (101.6 millimeters)
Minimum tread depth	7 inches (177.8 millimeters)
Doors opening immediately onto stairs without a landing	YES

There shall be no variation exceeding 3/16 inch in depth of adjacent treads or in the height of adjacent risers, and the tolerance between the largest and smallest tread shall not exceed 3/8 inch in any flight.

Exception: Where the bottom riser adjoins a public way, walk, or driveway having an established grade and serving as a landing, a variation in height of not more than 3 inches (76.2 millimeters) in every 3 feet (0.91 meter) and fraction of thereafter is permitted. Adjustable legs at the bottom of the stair assembly shall be permitted to allow for grade differences.

Stairs and landings for relocatable units shall comply with NFPA 101.

e. Handrails shall be provided on at least one side. Handrails shall be installed and constructed in accordance with NFPA 101, with the following exception: Provided the distance from grade to unit floor height is not greater than 4 feet 5 inches (1.35 meters), one intermediate handrail, having clear distance

between rails of 19 inches (0.48 meter) maximum, shall be permitted. Exception: Existing units having a floor height of 63 inches (1.60 meters) maximum.

f. Manual fire extinguishers shall be provided in accordance with NFPA 101.

g. Fire detection, alarm, and communications capabilities shall be installed and connected to facility central alarm system on all new units in accordance with NFPA 101.

h. Radiation protection for ~~X~~x-ray and gamma ray installations shall be in accordance with NCRP reports numbers 49 and 91 in addition to all applicable local and state requirements.

i. Interior finish materials shall be class A as defined in NFPA 101.

j. Textile materials having a napped, tufted, looped, woven, nonwoven, or similar surface shall be permitted on walls and ceilings provided such materials have a class "A" rating *and* rooms or areas are protected by automatic extinguishment or sprinkler system.

k. Fire-retardant coatings shall be permitted in accordance with NFPA 101.

l. Curtains and draperies shall be non-combustible or flame retardant and shall pass both the large- and small-scale tests required by NFPA 101.

12.1.F. Environmental Standards

All mobile, transportable, and relocatable units shall be sited in full compliance with such federal, state, and local environmental laws and regulations as may apply, for example, those listed in Section 3.3.

12.2-12.30 Reserved

12.31. Mechanical Standards

12.31.A.

Air conditioning, heating, ventilating, ductwork, and related equipment shall be installed in accordance with NFPA 90B, *Standard for the Installation of Warm Air Heating and Air Conditioning Systems*.

12.31.B.

All other requirements for heating and ventilation systems shall comply with Sections 9.31.A through 9.31.D.

12.31.C. Plumbing Standards

12.31.C1. Plumbing and other piping systems shall be installed in accordance with applicable model plumbing codes, unless specified herein.

12.31.C2. Mobile units, requiring sinks, shall not be required to be vented through the roof. ~~Ventilation of~~ ~~w~~Waste lines shall be permitted to be vented through the sidewalls or other acceptable locations. Transportable and relocatable units shall be vented through the roof per model plumbing codes.

12.31.C3. All waste lines shall be designed and constructed to discharge into the facility sanitary sewage system.

12.31.C4. Backflow prevention shall be installed at the point of water connection on the unit.

12.31.C5. Medical gases and suction systems, if installed, shall be in accordance with NFPA 99.

12.32. Electrical Standards

12.32.A. General

12.32.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.

12.32.A2. The electrical installations, including alarm, nurse call, 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.

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

12.32.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.

12.32.C. Panelboards

Panelboards serving normal lighting and appliance circuits shall be located on the same level as the circuits they serve.

12.32.D. Lighting

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

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

12.32.D3. Approaches to buildings and parking lots and all occupied spaces shall have [lighting](#) fixtures ~~for lighting~~ that can be illuminated as necessary.

12.32.D4. Consideration should be given to the special needs of the elderly. Excessive contrast in lighting levels that make effective sight adaptation difficult should be minimized. [Refer to IES publication, RP-28, *Lighting and the Visual Environment for Senior Living.*](#)

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

12.32.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.

12.32.F. Equipment

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

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

12.32.G. Reserved

12.32.H. Emergency Electrical Service

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

12.32.I. Fire Alarm System

The fire alarm system shall be as described in NFPA 101 and, where applicable, NFPA 72.

12.32.J. Telecommunications and Information Systems

12.32.J1. Locations for terminating telecommunications and information system devices shall be located on the unit that the devices serve and shall be accessible to authorized personnel only.

12.32.J2. Special air conditioning and voltage regulation shall be provided when recommended by the manufacturer.

A12.1.A

When invasive procedures are performed in mobile, relocatable, or transportable units, the standard of care and the environment of care should be at least as safe as a hospital or outpatient facility performing similar procedures.