

# RESCINDED 04-04-11



## OREGON FIRE CODE

### Interpretations and Technical Advisories

A collaborative service by local and state fire professionals, along with our stakeholders and customers, to provide consistent and concise application of Oregon's fire prevention and life safety regulations.

**Date:** January 25, 2011

**Ruling:** Technical Advisory No. 11-01 (Revised #06-01)

**Subject:** Use of Electrical Equipment in Licensed Health Care, Residential Care, and Assisted Living Facilities

**Code Reference:** Life Safety Code NFPA 101, 2000 Ed., sections 18/19.5.1, 9.1.2  
Health Care Facilities NFPA 99, 1999 Ed., sections 12-3.7 (Hospitals),  
13-3.7 (Ambulatory Health Care Facilities, End Stage Renal Dialysis  
Facilities, Urgent Care Facilities, Clinics, Sleep Laboratories, etc.),  
16-3.7 (Nursing Homes), 17-3.7 (Limited Care Facilities),  
20-3.7 (Freestanding Birthing Centers), 7-1 (Electrical Equipment)  
Residential Care and Assisted Living Facilities NFPA 99, 1999 Ed., section  
18-3.7 (Residential Facilities)  
National Electric Code, 1999 Ed., Article 517, sections 110.3, 400.8  
Oregon Fire Code (OFC), 2010 Ed., sections 605.1, 605.4.1, 605.5

**Content: I. DEFINITIONS:** For the purposes of this technical advisory, the following definitions shall apply.

**Electrical equipment** includes but is not limited to portable appliances (hair dryers, coffee makers, battery chargers, etc.), stationary appliances (refrigerators, microwave ovens, etc.), extension cords, relocatable power taps (plug strips, surge protectors, etc.), multi-plug adapters (cube adapters, strip plugs, multi-plug extension cords, etc.) and medical equipment such as but not limited to CPAP, infusion pumps, monitoring, radiological equipment, etc. OFC section 605, NFPA 70, NFPA 99, section 2-2

**Patient-Care related electrical appliances** includes electrical appliances that are intended to be used for diagnostic, therapeutic, or monitoring purposes in a patient care vicinity.

# RESCINDED 04-04-11

**Non-patient electrical appliances and equipment** includes those appliances and equipment used in patient care areas and laboratories such as but not limited to office equipment, maintenance equipment, televisions, audio devices, etc.

**Patient care area** is defined as any portion of a health care facility wherein patients are intended to be examined or treated and are classified as either a general care areas or critical care areas. Business offices, corridors, lounges, day rooms, dining rooms, or similar areas are not considered as patient care areas.

*According to CMS State Letter, the patient care area moves with the resident/patient to whatever location they are receiving examination and/or treatment. Compliance with this requirement, though in conflict with NFPA 99 and NFPA 70, is a condition of participation for Medicare and/or Medicaid certified facilities.*

**General care areas** is defined as patient bedrooms, examining rooms, treatment rooms, clinics, and similar areas in which patients will come into contact with ordinary appliances such as nurse-call systems, electric beds, examining lamps, telephones, and entertainment devices. In such areas, patients could be connected to patient care related electrical appliances such as heating pads, electrocardiographs, drainage pumps, monitors, radiological equipment otoscopes, ophthalmoscopes, intravenous lines, etc.

**Critical care areas** is defined as those special care units where patients may be subjected to invasive procedures and connected to line-operated patient care related electrical appliance. Examples include intensive care units, coronary care units, angiography laboratories, cardiac catheterization laboratories, delivery rooms, operating rooms, postanesthesia recovery rooms, and emergency rooms.

**Wet location** as used in NFPA 99 is defined as a patient care area that is normally subject to long term significant amounts of water while patients are present including standing fluids on floors, drenching of work areas, etc. where such condition is intimate to the patient and staff.

**NOTE:** Incidental spillage of liquids and routine housekeeping procedures do not define a wet location.

**Patient care vicinity** is defined as a space within a location intended for the examination and treatment of patients, extending 6 feet beyond the normal location of the bed, chair, table, treadmill, or other device that supports the patient during examination and treatment and extends vertically to 7 feet 6 inches above the floor.

**NOTE:** Terms such as "resident" or "client" as may be commonly used to describe persons who are receiving treatment and care (which includes sleeping areas and rooms) shall for the purposes of this advisory be synonymous with the term "patient".

**II. REGULATIONS:** The following regulations shall be followed where electrical equipment is being used within health care facilities.

# RESCINDED 04-04-11

1. All electrical appliances and equipment shall comply with the requirements specified within the *Oregon Fire Code, 2010 Ed.* Including all referenced standards. In addition, federally certified health care facilities regulated by the Centers for Medicare and Medicaid Services shall comply with the requirements specified within the NFPA 101, Life Safety Code, 2000 Ed., including all referenced standards. OFC section 601.1, NFPA 101, sections 18/19.1.1.
2. Electrical appliances and equipment is to comply with the manufacturer's requirements as specified in Chapter 9 of NFPA 99 and is to be listed for their intended use. Facilities shall establish written policies regarding use of electrical appliances and equipment including appliances and equipment not provided by the facility. OFC, section 605.7, NFPA 99, section 7-6.2.1  
**NOTE:** In health care facilities specifically, all appliances shall either be listed for their intended use **OR** shall be subject to an evaluation by a qualified individual or third party service approved by the fire code official to determine compliance with Chapters 7 and 9 of NFPA 99.
3. Electrical equipment is to comply with the performance, maintenance, and testing requirements of Chapter 7 of NFPA 99 and be used in accordance with all instructions included as part of such listing. The manufacturer's instructions as supplied by the manufacturer conform to the listing organization's (UL, Factory Mutual, etc.) testing guidelines and are to be followed by the facility. Patient care related electrical appliances and equipment shall conform to the performance criteria and testing specified in NFPA 99 section 7-5.1. Non patient electrical appliances and equipment shall conform to the performance criteria and testing specified in NFPA 99, section 7-5.2, section 7-5, and section 7.6.2.1.8.
4. Electrical equipment such as but not limited to extension cords, relocatable power taps, surge suppressors, etc., shall not be affixed to the structure of facilities in any manner that requires use of tools or specialized devices to provide access. Such installation is in conflict with the requirements of the Electrical Code. OFC section 605.1, NFPA 70, section 400.8.
5. Appliances intended to be used in patient care areas shall be tested, evaluated, and periodically inspected at approved intervals (General care areas; 12 months, Critical care areas and wet locations; 6 months) or as determined by the facility based upon types and amount of use, previously documented safety testing, or similar considerations. Facility-owned household or other appliances not intended to contact patients shall be tested at intervals deemed appropriate by the facility. All testing shall be documented. NFPA 99, section 7-6.2.1.2, Exception.
6. Facilities shall establish policies for the control of appliances not provided by the facility. When establishing policies, the following issues need to be considered;
  - Is the appliance a medical device?

# RESCINDED 04-04-11

- Is the appliance to be used by facility staff or only by the patient?
- Is the appliance owned by the patient?
- Does the manufacturer make no claims as to its design or use of the appliance as a medical device?

At a minimum, all appliances not provided by the facility shall be inspected prior to use within the facility and periodically thereafter until such time as the appliance or equipment is no longer used within the facility.

For the purposes of this section, “periodically” means as determined by the facility based upon the use and environmental effects and whenever a visual inspection of the appliance indicates a change of its condition due to use or repair. NFPA 99, section 7-6.2.1.11.

7. Electrical equipment shall be serviced by qualified personnel. Qualified personnel shall possess any licenses required by the State of Oregon.

**NOTE 1:** Examples of a valid license include a Limited Maintenance Electrician license or a Limited Energy Technician “A” or “B” license (for work on low voltage equipment only).

**NOTE 2:** Licenses are issued through the Building Codes Division of the Department of Consumer and Business Services.

The facility is required to provide evidence that personnel authorized to service patient care related appliances and equipment, are qualified based on accepted industry standards and nationally recognized good practices.

**NOTE:** One example of an acceptable credential is a Certified Biomedical Equipment Technician (CBET). CBET is an AAMI-Association for the Advancement of Medical Instrumentation credential.

Individuals with a degree in electronics from an accredited higher learning institution or through military or other recognized training schools or associations and that work under direct and close supervision of an individual who possesses an industry accepted credential may also be deemed qualified if authorized by the facility in writing.

Facilities are required to provide written documentation of credentials upon request by the fire code official. NFPA 99, section 7-6.5.3.

8. Electrical equipment shall be labeled (commonly known as a Safety Sticker) to indicate that required inspections, tests, and evaluations have been performed. Other methods of documenting inspections, testing or evaluations of electrical equipment and appliances may be used as determined by facility policies. This service shall be performed by either qualified staff (refer to #7) or through a qualified third-party service. Users shall be made aware of the status of all equipment assigned for their use.
9. All electrical equipment used within patient care vicinities within health care facilities shall be listed for those locations (UL 60601-1) and shall be so

# RESCINDED 04-04-11

identified. Manufactured assemblies that contain electrical equipment such as relocatable power taps, surge suppressors, etc., shall be listed as an *assembly* and shall be so identified.

## **Other References:**