7511.7900 AMENDMENTS TO APPENDICES OF INTERNATIONAL FIRE CODE.

Subpart 1. [Repealed, 40 SR 1437]

Subp. 2. **IFC Appendix O.** The IFC is amended by adding an Appendix O to read:

The provisions contained in this appendix are not mandatory unless specifically referenced in the local adopting ordinance.

APPENDIX O

FIRES OR BARBECUES ON BALCONIES OR PATIOS

SECTION 1 - OPEN FLAME AND FUEL STORAGE PROHIBITED

1.1 Open flame prohibited. In any structure containing three or more dwelling units, no person shall kindle, maintain, or cause any fire or open flame on any balcony above ground level, or on any ground floor patio within 15 feet (4,572 mm) of the structure.

1.2 Fuel storage prohibited. No person shall store or use any fuel, barbecue, torch, or other similar heating or lighting chemical or device in the locations designated in Section 1.1.

Exception: Listed electric or gas-fired barbecue grills that are permanently mounted and wired or plumbed to the building's gas supply or electrical system and that maintain a minimum clearance of 18 inches (457 mm) on all sides, unless listed for lesser clearances, may be installed on balconies and patios when approved by the fire chief.

Subp. 3. [Repealed, 40 SR 1437]

Subp. 4. [Repealed, 40 SR 1437]

Subp. 5. **IFC Appendix P.** The IFC is amended by adding an appendix to read as follows:

The provisions contained in this appendix are not mandatory unless specifically referenced in the local adopting ordinance.

APPENDIX P

EMERGENCY RESPONDER RADIO COVERAGE

P101 Emergency responder radio coverage in existing buildings. Existing buildings that do not have approved radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building, shall be equipped with such coverage according to one of the following:

1. Whenever an existing wired communication system cannot be repaired or is being replaced, or where not approved.

2. Within a time frame established by the adopting authority.

Exception: Where it is determined by the fire code official that the radio coverage system is not needed.

P102 Emergency responder radio coverage in new buildings. All new buildings shall have approved radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building. This section shall not require improvement of the existing public safety communication systems.

Exceptions:

1. Where approved by the building official and the fire code official, a wired communication system in accordance with Section 907.2.12.2 shall be permitted to be installed or maintained in lieu of an approved radio coverage system.

2. Where it is determined by the fire code official that the radio coverage system is not needed.

3. In facilities where emergency responder radio coverage is required and such systems, components, or equipment required could have a negative impact on the normal operations of that facility, the fire code official shall have the authority to accept an automatically activated emergency responder radio coverage system.

4. Where it is determined to be unreasonably burdensome to implement an approved radio coverage system.

P103 Permit required. A construction permit for the installation of or modification to emergency responder radio coverage systems and related equipment is required. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

P104 Technical requirements. Systems, components, and equipment required to provide emergency responder radio coverage system shall comply with Sections P104.1 through P104.2.6.

P104.1 Radio signal strength. The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 95 percent of all areas on each floor of the building meet the signal strength requirements in Sections P104.1.1 and P104.1.2.

P104.1.1 Minimum signal strength into the building. A minimum signal strength of -95 dBm shall be receivable within the building at a hip-worn device.

P104.1.2 Minimum signal strength out of the building. A minimum signal strength of -95 dBm shall be received by the agency's radio system when transmitted from within the building from a hip-worn device.

P104.2 System design. The emergency responder radio coverage system shall be designed in accordance with Sections P104.2.1 through P104.2.6.

P104.2.1 In-building coverage systems allowed. Buildings and structures which cannot support the required level of radio coverage shall be equipped with a radiating cable system, a distributed antenna system with Federal Communications Commission (FCC) certified repeaters, bi-directional amplifiers, picocells or their equivalents, or other system approved by the fire code official in order to achieve the required adequate radio coverage.

P104.2.2 Technical criteria. The fire code official shall maintain a document providing the specific technical information and requirements for the emergency responder radio coverage system. This document shall contain the various frequencies required, the location of radio sites, effective radiated power of radio sites, and other supporting technical information.

P104.2.3 Standby power. Emergency responder radio coverage systems shall be provided with dedicated standby batteries or provided with 2-hour standby batteries and connected to the facility generator power system accordance with Section 1203. The standby power supply shall be capable of operating the emergency responder radio coverage system at 100 percent system capacity for a duration of not less than 12 hours.

P104.2.4 In-building coverage system requirements. If used, in-building coverage systems shall meet the following requirements:

1. All in-building coverage system components shall be contained in a National Electrical Manufacturer's Association (NEMA) 4-type waterproof cabinet.

2. Battery systems used for the emergency power source shall be contained in a NEMA 4-type waterproof cabinet.

3. The in-building coverage system and battery system shall be electrically supervised and monitored by a supervisory service, or when approved by the fire code official, shall sound an audible signal at a constantly attended location.

4. Equipment shall have FCC certification prior to installation.

P104.2.5 Additional frequencies and change of frequencies. The emergency responder radio coverage system shall be capable of modification or expansion in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC, or public safety entities operating in a given jurisdiction make modifications, changes, or upgrades to their communication system(s) that change the frequencies such systems utilize.

P104.2.6 Availability. The in-building coverage system, in general, shall operate according to its intended specification with "5-9s" availability of 99.999 percent of each year; i.e., no critical component of the system shall be out of normal operation for more than 5.26 minutes of each year.

P105 Installation requirements. The installation of the public safety radio coverage system shall be in accordance with Sections P105.1 through P105.5.

P105.1 Approval prior to installation. Amplification systems capable of operating on frequencies licensed to any public safety agency by the FCC shall not be installed without prior coordination and approval of the fire code official.

P105.2 Minimum qualifications of personnel. The minimum qualifications of the system designer and lead installation personnel shall include at least one of the following:

1. Certification of in-building system training issued by a nationally recognized organization or school.

2. A certificate issued by the manufacturer of the equipment being installed.

These qualifications shall not be required where demonstration of adequate skills and experience satisfactory to the fire code official is provided.

P105.3 Acceptance test procedure. When an emergency responder radio coverage system is required, and upon completion of installation, the building owner shall have the radio system tested to ensure that two-way coverage on each floor of the building is a minimum of 95 percent. The test procedure shall be conducted as follows:

1. Each floor of the building shall be divided into a grid of 20 approximately equal test areas.

2. The test shall be conducted using a calibrated handheld or hip-worn device of the latest brand and model used by the agency talking through the agency's radio communications system.

3. Failure of a maximum of two nonadjacent test areas shall not result in failure of the test.

4. In the event that three of the test areas fail the test, in order to be more statistically accurate, the floor shall be permitted to be divided into 40 equal test areas. Failure of a maximum of four nonadjacent test areas shall not result in failure of the test. If the system fails the 40-area test, the system shall be altered to meet the 95 percent coverage requirement.

5. A test location approximately in the center of each test area shall be selected for the test, with the radio enabled to verify two-way communications to and from the outside of the building through the public agency's radio communications system. Once the test location has been selected, that location shall represent the entire test area. Failure in the selected test location shall be considered failure of that test area. Additional test locations shall not be permitted.

6. The gain values of all amplifiers, if applicable, shall be measured and the test measurement results shall be kept on file with the building owner so that the measurements can be verified during annual tests. In the event that the measurement results become lost, the building owner shall be required to rerun the acceptance test to reestablish the gain values.

7. As part of the installation, a spectrum analyzer or other suitable test equipment shall be utilized to ensure spurious oscillations are not being generated by the subject in-building coverage system. This test shall be conducted at time of installation and subsequent annual inspections.

8. A test shall be considered a "failure" when a transmission from the test device within the building fails to deliver intelligible audio or data to the appropriate public safety dispatch center or equivalent as would be expected during normal operation; and/or when a transmission from a public safety dispatch center or equivalent fails to deliver intelligible

audio or data to the test device within the building as would be expected during normal operation.

P105.5 FCC compliance. The emergency responder radio coverage system installation and components shall also comply with all applicable federal regulations including FCC 47 CFR Part 90.219.

P106 Maintenance. The emergency responder radio coverage system shall be maintained operational at all times in accordance with Sections P106.1 through P106.4.

P106.1 Testing and proof of compliance. The emergency responder radio coverage system shall be inspected and tested annually or whenever structural changes occur including additions or remodels that could materially change the original field performance tests. Testing shall consist of the following:

1. In-building coverage test as described in Section P105.3.

2. Signal boosters in-building coverage systems shall be tested to ensure that the gain is the same as it was upon initial installation and acceptance.

3. Backup batteries and power supplies shall be tested under load of a period of one hour to verify that they will properly operate during an actual power outage. If, within the one-hour test period, the battery exhibits symptoms of failure, the test shall be extended for additional one hour periods until the integrity of the battery can be determined.

4. All other active components shall be checked to verify operation within the manufacturer's specifications.

5. At the conclusion of the testing, a report, which shall verify compliance with Section P105.3, shall be submitted to the fire code official.

P106.2 Additional frequencies. The building owner shall modify or expand the emergency responder radio coverage system at their expense in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC, or public safety entities operating in a given jurisdiction make modifications, changes, or upgrades to their communication system(s) that change the frequencies such systems utilize. Prior approval of a public safety radio coverage system on previous frequencies does not exempt this section.

P106.3 Field testing. Agency personnel shall have the right to enter onto the property at any reasonable time to conduct field testing to verify the required level of radio coverage.

P106.4 Planned outages. Any planned outages of the in-building coverage system, such as for replacement or upgrade of the system, shall be done with the written approval of an entity legitimately representing public safety agencies operating within the jurisdiction, such as a county sheriff.

Statutory Authority: *MS s 299F.011; 326B.02*

History: *32 SR 10; 40 SR 1437; 44 SR 610*
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