

EXHIBIT B

NBMC CHAPTER 15.18 INTERNATIONAL FIRE CODE

15.18.030 General authority and responsibilities. Duties and powers of the fire code Official. Section 104.1 of the IFC is hereby amended to read as follows:

If the Fire Department of the City of North Bend ever consolidates its Fire Department with any other fire department, the Fire Chief of the consolidated fire department shall be authorized to administer this code and enforce this code and to adopt policies, procedures, rules, and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code and shall not have the effect of waiving requirements specifically provided for in this code.

The chief hereby delegates to the fire code official all authority under this chapter to enforce all ordinances of the jurisdiction pertaining to:

1. The prevention of fires.
2. The suppression or extinguishment of dangerous or hazardous fires.
3. The storage use and handling of hazardous materials.
4. The installation and maintenance of automatic, manual and other private fire alarm systems and fire-extinguishing equipment.
5. The maintenance and regulation of fire escapes.
6. The maintenance of fire protection and the elimination of fire hazards on land and in buildings, structures and other property, including those under construction.
7. The maintenance of exits.
8. The investigation of the cause, origin and circumstances of fire and unauthorized release of hazardous materials.

Such authority shall become effective immediately upon consolidation and shall terminate immediately upon dissolution of the consolidated fire department. Such authority shall be subject to review and approval by the Mayor of the City of North Bend.

15.18.040 Assistance from other agencies.

Section ~~104.10.1-104.11.1~~ of the IFC is hereby amended to read as follows:

~~104.10.1-104.11.1~~ Assistance from other agencies. Police and other enforcement agencies shall have authority to render necessary assistance in the investigation of fires or the enforcement of this code, as requested by the Fire Chief, fire code official or officer of the fire department in charge of the emergency.

15.18.050 Obstructing operations.

Section ~~104.11.2-104.12.2~~ of the IFC is hereby amended to read as follows:

No person shall obstruct the operations of the fire department in connection with extinguishment, control, or investigation of any fire, or actions relative to other emergencies, or disobey any lawful command of the fire code official or officer of the fire department in charge of the emergency, or any part thereof, or any lawful order of a police officer assisting the fire department.

15.18.060 Mobile food preparation vehicles.

Section ~~105.6.30-105.5.32~~ of the IFC is hereby amended to read as follows:

~~105.6.30-105.5.32~~ Mobile food preparation vehicles. A permit is required for mobile food preparation vehicles equipped with appliances that produce smoke or grease-laden vapors or utilize LP-gas systems or CNG systems.

Valid operational permits issued by any King County Fire Agency are recognized provided that the vehicle and appliances are maintained in accordance with conditions of the permit.

15.18.070 Positive alarm sequence.

Section ~~105.6-105.5.53~~ of the IFC is hereby amended by the addition of a new subsection ~~105.6.51~~ 105.5.53 to read as follows:

~~105.6.51-105.5.53~~ Positive alarm sequence. An operational permit is required to operate a PAS (Positive Alarm Sequence) Account as prescribed in NFPA (National Fire Protection Association) 72.

15.18.080 Overcrowding.

Section ~~108.6-109.6~~ of the IFC is hereby amended to read as follows:

Overcrowding or admittance of any person beyond the approved capacity of a building or a portion thereof shall not be allowed. The fire code official, upon finding any overcrowding conditions or obstructions in aisles, passageways or other means of egress or upon finding any condition which constitutes a life safety hazard shall be authorized to direct actions to be taken to reduce the overcrowding or to cause the event to be stopped until such condition or obstruction is corrected.

15.18.090 Appeals.

Section 109-111 of the IFC is hereby amended to read as follows:

109.1-111.1 Appeals. The City of ~~Issaquah~~ North Bend hearing examiner shall hear and make decisions of appeals of orders, decisions or determinations made by the Fire Official relative to the application and interpretations of this code.

109.2-111.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted hereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The hearing examiner shall have no authority to waive requirements of this code.

15.18.120 Open burning, recreational fires and portable outdoor fireplaces.

IFC Section 307 amended – Open Burning, Recreational Fires and Portable Outdoor Fireplaces. Section 307 of the International Fire Code is hereby amended to read as follows:

307.1 General. A person shall not kindle or maintain or authorize to be kindled or maintained any fire unless conducted in accordance with Sections 307.1.1. through 307.8.

307.1.1 Prohibited open burning. Open burning shall be prohibited at all times in compliance with a permanent ban on open burning established by the Puget Sound Clean Air Agency in September of 1992.

Exceptions:

1. Bonfires
2. Recreational Fires
3. Portable outdoor fireplaces

307.2 Permit required. A permit shall be obtained from the fire code official in accordance with Section 105.6 prior to conducting opening burning. Application for such approval shall only be presented by and permit issued to the owner of the land upon which the bonfire is to be conducted.

A permit is not required for a BBQ.

307.3. Bans on fires due to air quality or fire danger. If the Puget Sound Clean Air Agency issues a burn ban due to air quality, or if a fire safety burn ban is issued by the Eastside Fire Marshal or King County Fire Marshal, all fires are prohibited. It is the responsibility of the property owner where the fire is to be conducted to ensure no such ban exists prior to starting any fire.

307.4 Extinguishment authority. When any fire creates or adds to a hazardous situation, or a required permit has not been obtained, the fire code official is

authorized to order the extinguishment of the fire. Where fire suppression is required by fire department personnel the following cost recovery shall apply, where required by the fire code official.

307.4.1 Personnel and/or Equipment Cost Recovery. Invoiced through Eastside Fire and Rescue.

307.4.2 Personnel will be invoiced at the actual rate of total compensation plus administrative fee.

307.4.3 Emergency vehicles (fire engine, aid car, etc.) will be invoiced per the fee schedule as adopted by the Washington State Fire Chiefs Association, plus administrative fee. The administrative fee is 15 percent of the amount invoiced.

307.5 Location. The location for fires shall be as follows:

307.5.1 Bonfires. A bonfire shall not be conducted within 50 feet (15 240 mm) of a structure or combustible material unless the fire is contained in a barbecue pit. Conditions which could cause a fire to spread within 50 feet (15 240 mm) of a structure shall be eliminated prior to ignition.

307.5.2 Recreational fires. Recreational fires shall not be conducted within 25 feet (7620 mm) of a structure or combustible material. Conditions which could cause a fire to spread within 25 feet (7620 mm) of a structure shall be eliminated prior to ignition. [WS] See also Chapter 173-425 WAC.

307.5.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

307.6 Attendance. Bonfires, recreational fires and use of portable outdoor fireplaces shall be constantly attended until the fire is extinguished. A minimum of one portable fire extinguisher complying with Section 906 with a minimum 4-A rating or other approved on-site fire-extinguishing equipment, such as dirt, sand, water barrel, garden hose or water truck, shall be available for immediate utilization.

~~307.7 LPG containers. Portable outdoor barbecues used on occupied roofs of Group R-2 occupancies shall be limited to portable outdoor barbecues designed for use with LPG containers with a capacity of 16.4 ounces (0.465 kg).~~

~~307.7.1 Cleaning. Portable outdoor barbecues shall be periodically cleaned by removing grease or fat accumulations from grills and in trays below the grill.~~

15.18.125 Amendments to International Fire Code Section 308, Open-Flame Cooking Devices.

IFC Section 308.1.4 amended – Open-Flame Cooking Devices. Section 308.1.4 of the International Fire Code is hereby amended to read as follows:

Open-flame cooking devices. Charcoal burners and other open-flame cooking devices shall not be operated on combustible balconies, decks or within 10 feet (3048 mm) of combustible construction.

Exceptions:

1. One-and-two-family dwellings.
2. Where buildings, balconies and decks are protected by an automatic sprinkler system.
3. LP-gas cooking devices having LP-gas containers with a water capacity not greater than 2 ½ pounds [nominal 1 pound (0.454 kg) LP-gas capacity].

308.1.4.1 LPG containers. Portable outdoor barbecues used on occupied roofs of Group R-1 and R-2 occupancies shall be limited to portable outdoor barbecues designed for use with LPG containers with a maximum capacity of 16.4 ounces (0.465 kg).

308.1.4.2 Cleaning. Portable outdoor barbecues shall be periodically cleaned by removing grease or fat accumulations from grills and in trays below the grill.

15.18.150 Fire apparatus access roads.

Section 503 of the IFC is adopted to read as follows:

Section 503 of the IFC and Appendix D are adopted to apply to those roads to which City street standards under WAC 51-54A-0503 do not currently apply, with amendments to the following three subsections of Section 503 to read as follows:

Emergency Vehicle access roads shall be constructed in accordance with City of North Bend Public Works standards.

A. Fire apparatus public access roads shall be provided and maintained by the city of North Bend in accordance with WAC 51-54A-0503. Private access fire roads shall be provided and maintained by the owner of such roads.

B. The following sections of the IFC as adopted are amended to read as follows:

1. 503.2.1 Dimensions. Fire apparatus access roads, other than those governed above, or on private property, shall have an unobstructed width of not less than 20 feet (6,096 mm), except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4,115 mm). Emergency Vehicle access roads shall be constructed in accordance with City of North Bend Municipal Code and standards.

2. 503.2.7 Grade. The grade of the fire apparatus access road shall be no more than 12% slope. Access roads may be permitted to exceed 12% with approval of the fire official, where all buildings are provided with an approved fire sprinkler system.

3. 503.3. Markings. When required by the fire code official, approved signs or other approved notices shall be provided and maintained for fire apparatus roads to identify such roads and prohibit the obstruction thereof or both.

a. All designated fire lanes shall be clearly marked by the property owner in the following manner: Vertical curbs shall be painted six (6") inches in height and shall be painted red on the top and side, extending the length of the designated fire lane with four inch (4") white block lettering stenciled on the face "NO PARKING – FIRE LANE." The stenciling shall be spaced every fifty feet (50'). Rolled curbs or surfaces without curbs shall have a six inch (6") wide red stripe painted extending the length of the designated fire lane with four inch (4") white block lettering stenciled on the stripe "NO PARKING – FIRE LANE." The stenciling shall be spaced every fifty feet (50').

b. Signs may be substituted for curb painting when approved in writing by the fire code official.

c. Signs shall be not less than eighteen inches (18") in height by twelve inches (12") in width, with block lettering of not less than three inches (3") high brush stroke, reading: "NO PARKING – FIRE LANE." Such signs shall be reflective in nature, with red lettering on a white background, include directional arrows, and spaced at intervals of not less than hundred feet (100') apart or fraction thereof and shall be approved by the fire code official. Signs shall be installed parallel to the street. The top of such signs shall not be less than four feet (4') or more than six feet (6') from the ground. Signs may be placed on buildings when approved in writing by the fire marshal. When posts are required, they shall be constructed of either two inch (2") or greater galvanized steel, or four inch by four inch (4" x 4") or greater pressure treated wood.

d. The fire code official may approve deviations from any of the specifications in writing.

e. Existing signs may be allowed to remain until the fire code official determines that a need for replacement exists based on the legibility or other deterioration of the existing signs. Such replacement shall occur within 30 days of receiving written notification of the deficiency.

f. Fire lanes shall be established and maintained as often as required by the fire code official to clearly identify the designated area as a fire lane, at the sole expense of the property owner. The property owner shall have completed the required establishment or maintenance of fire lanes within 30 days of receiving written notification that such is necessary.

g. At the entrance to the property where fire lanes have been designated, signs shall be posted in a clearly conspicuous location, and shall clearly state that vehicles parked in fire lanes may be impounded, and the name, telephone number, and address of the towing firm where the vehicle may be redeemed.

h. The owner, manager, or person in charge of any property upon which any designated fire lane has been established shall be responsible to prevent the parking of vehicles in such fire lanes by informing the appropriate towing company of the violation. If the lane is blocked by any other obstructions, the owner, manager, or person in charge of the property shall attempt to remove the obstruction, and if unable, shall inform the fire department that the obstruction exists.

i. All criminal violations of the International Fire Code and obstruction of a fire apparatus road may be enforced by any regular or reserve police officer of the Police Department.

j. Except when in compliance with the law or at the direction of a police or fire officer, no person shall stop, stand, or park a vehicle in a red or yellow area designated "Fire Lane."

k. Except when in compliance with the law or at the direction of a police or fire officer, and in accordance with RCW 46.61.570(1), no person shall stop, stand, or park a vehicle within fifteen feet of a fire hydrant.

l. Any person, firm, corporation or organization violating any of the provisions of this title shall be guilty of a civil infraction, punishable as provided in the NBMC. Every day or portion thereof during which any violation of this title occurs or continues shall constitute a separate offense.

15.18.180 Emergency responder radio coverage.

The following sections of the IFC International Fire Code as adopted are amended to read as follows:

510.1 Emergency responder radio coverage in new buildings. Approved radio coverage for emergency responders shall be provided within buildings that meet any one of the following conditions:

1. High rise buildings;
2. The total building area is 50,000 square feet or more;
3. The total basement area is 10,000 square feet or more; or
4. There are floors used for human occupancy more than 30 feet below the finished floor of the lowest level of exit discharge.
5. Buildings or structures where the Fire or Police Chief determines that in-building radio coverage is critical because of its unique design, location, use or occupancy.

The radio coverage system shall be installed in accordance with Sections 510.4 through 510.5.5 of this code and with the provisions of NFPA 1221 (2019). This section shall not require improvement of the existing public safety communication systems.

Point of Information

When determining if the minimum signal strength referenced 510.4.1.1 exists at a subject building, the signal strength shall be measured at any point on the exterior of the building up to the highest point on the roof.

Exceptions:

1. Buildings and areas of buildings that have minimum radio coverage signal strength levels of the King County Regional 800 MHz Radio System within the building in accordance with Section 510.4.1 without the use of a radio coverage system.
2. 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.
3. One- and two-family dwellings and townhouses.
4. Subject to the approval of the fire code official, buildings other than high-rise buildings, colleges, universities and buildings primarily occupied by Group E or I occupancies that have completed a Mobile Emergency Responder Radio Coverage application and submitted payment as outlined in the application.

510.1.1 Occupancy. It shall be unlawful to occupy any portion of a building or structure until Emergency Responder Radio Coverage have been tested and approved in accordance with the provisions of Section 510.

510.2 Emergency responder radio coverage in existing buildings.

Existing buildings shall have approved radio coverage for emergency responders as required in Chapter 11.

510.3 Permit required. A construction permit for the installation of or modification to emergency responder radio coverage systems and related equipment is required as specified in Section 105.7.6. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

Point of Information

Prior coordination and approval from the Public Safety Radio System Operator is required before installation of an Emergency Responder Radio System. ~~Until 2023,~~

~~such approval is required from EPSCA, King County, Seattle or ValleyCom depending on the location of the installation. It is anticipated in 2023 PSERN will be the single operator of a county wide system.~~

In order to be forward compatible, designers and contractors should be aware of PSERN's requirements for Distributed Antenna Systems which can be found via <https://psern.org/requirements/>

510.4 Technical requirements. Systems, components and equipment required to provide the emergency responder radio coverage system shall comply with Sections 510.4.1 through 510.4.2.8.

510.4.1 Emergency responder communication enhancement system signal strength. The building shall be considered to have acceptable emergency responder communications enhancement system coverage when signal strength measurements in 95 percent of all areas on each floor of the building meet the signal strength requirements in Sections 510.4.1.1 through 510.4.1.3.

Exception: Critical areas, such as the fire command center(s), the fire pump room(s), interior exit stairways, exit passageways, elevator lobbies, standpipe cabinets, sprinkler sectional valve locations, and other areas required by the fire code official, shall be provided with 99 percent floor area radio coverage.

510.4.1.1 Minimum signal strength into the building. The minimum inbound signal strength shall be sufficient to provide usable voice communications throughout the coverage area as specified by the fire code official. The inbound signal level shall be a minimum of -95dBm in 95% of the coverage area and 99% in critical areas and sufficient to provide not less than a Delivered Audio Quality (DAQ) of 3.0 or an equivalent Signal-to-Interference-Plus-Noise Ratio (SINR) applicable to the technology for either analog or digital signals.

510.4.1.2 Minimum signal strength out of the building. The minimum outbound signal strength shall be sufficient to provide usable voice communications throughout the coverage area as specified by the fire code official. The outbound signal level shall be sufficient to provide not less than a DAQ of 3.0 or an equivalent SINR applicable to the technology for either analog or digital signals. A minimum signal strength of -95 dBm shall be received by the King County Regional 800 MHz Radio System when transmitted from within the building.

510.4.1.3 System performance. Signal strength shall be sufficient to meet the requirements of the applications being utilized by public safety for emergency operations through the coverage area as specified by the Public Safety Radio System Operator in Section 510.4.2.2.

510.4.2 System design. The emergency responder radio coverage system shall be designed in accordance with Sections 510.4.2.1 through 510.4.2.8 and NFPA 1221 (2019).

510.4.2.1 Amplification systems and components. Buildings and structures that cannot support the required level of radio coverage shall be equipped with systems and components to enhance the public safety radio signals and achieve the required level of radio coverage specified in Sections 510.4.1 through 510.4.1.3. Public safety communications enhancement systems utilizing radio-frequency-emitting devices and cabling shall be allowed by the Public Safety Radio System Operator. Prior to installation, all RF-emitting devices shall have the certification of the radio licensing authority and be suitable for public safety use.

510.4.2.2 Technical criteria. The Public Safety Radio System Operator shall provide the various frequencies required, the location of radio sites, the effective radiated power of radio sites, the maximum propagation delay in microseconds, the applications being used and other supporting technical information necessary for system design upon request by the building owner or owner's representative.

510.4.2.3 Power supply sources. 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 in 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.

510.4.2.4 Signal booster requirements. If used, signal boosters shall meet the following requirements:

1. All signal booster components shall be contained in a National Electrical Manufacturer's Association (NEMA) 4, IP66-type waterproof cabinet or equivalent.

Exception: Listed battery systems that are contained in integrated battery cabinets.

2. Battery systems used for the emergency power source shall be contained in a NEMA 3R or higher-rated cabinet, IP65-type waterproof cabinet or equivalent.

3. Equipment shall have FCC or other radio licensing authority certification and be suitable for public safety use prior to installation.

4. Where a donor antenna exists, isolation shall be maintained between the donor antenna and all inside antennas to not less than 20dB greater than the system gain under all operating conditions.

5. Bi-Directional Amplifiers (BDAs) used in emergency responder radio coverage systems shall be fitted with anti-oscillation circuitry and per-channel AGC.

6. The installation of amplification systems or systems that operate on or provide the means to cause interference on any emergency responder radio coverage networks shall be coordinated and approved by the Public Safety Radio System Operator.

7. Unless otherwise approved by the Public Safety Radio System Operator, only channelized signal boosters shall be permitted.

Exception: Broadband BDA's may be utilized when specifically authorized in writing by the Public Safety Radio System Operator.

Point of Information

BDA's must also comply with PSERN's (www.psern.org/requirements) detailed requirements, which include channelized, minimum of 28 channels, supporting analog, P25 Phase I (FDMA), and P25 Phase II (TDMA).

510.4.2.5 System monitoring. The emergency responder radio enhancement system shall include automatic supervisory and trouble signals that are monitored by a supervisory service and are annunciated by the fire alarm system in accordance with NFPA 72. The following conditions shall be separately annunciated by the fire alarm system, or, if the status of each of the following conditions is individually displayed on a dedicated panel on the radio enhancement system, a single automatic supervisory signal may be annunciated on the fire alarm system indicating deficiencies of the radio enhancement system:

1. Loss of normal AC power supply.
2. System battery charger(s) failure.
3. Malfunction of the donor antenna(s).
4. Failure of active RF-emitting device(s).
5. Low-battery capacity at 70-percent reduction of operating capacity.
6. Active system component malfunction.
7. Malfunction of the communications link between the fire alarm system and the emergency responder radio enhancement system.

510.4.2.6 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 other radio licensing authority, or additional frequencies are made available by the FCC or other radio licensing authority.

510.4.2.7 Design documents. The fire code official shall have the authority to require "as-built" design documents and specifications for emergency responder communications coverage systems. The documents shall be in a format acceptable to the fire code official.

510.4.2.8 Radio communication antenna density. Systems shall be engineered to minimize the near-far effect. Radio enhancement system designs shall include sufficient antenna density to address reduced gain conditions.

Exceptions:

1. Class A narrow band signal booster devices with independent AGC/ALC circuits per channel.
2. Systems where all portable devices within the same band use active power control.

510.5 Installation requirements. The installation of the public safety radio coverage system shall be in accordance with NFPA 1221 (2019) and Sections 510.5.1 through 510.5.7.

510.5.1 Approval prior to installation. Amplification systems capable of operating on frequencies licensed to any public safety agency by the FCC or other radio licensing authority shall not be installed without prior coordination and approval of the Public Safety Radio System Operator.

510.5.2 Minimum qualifications of personnel. The minimum qualifications of the system designer and lead installation personnel shall include both of the following:

1. A valid FCC-issued general radio operators license.
2. Certification of in-building system training issued by an approved organization or approved school, or a certificate issued by the manufacturer of the equipment being installed.

510.5.3 Acceptance test procedure. Where an emergency responder radio coverage system is required, and upon completion of installation, the building owner shall have the radio system tested to verify that two-way coverage on each floor of the building is in accordance with Section 510.4.1. 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, with a maximum test area size of 6,400 square feet. Where the floor area exceeds 128,000 square feet, the floor shall be divided into as many approximately equal test areas as needed, such that no test area exceeds the maximum square footage allowed for a test area.
2. Coverage testing of signal strength shall be conducted using a calibrated spectrum analyzer for each of the test grids. A diagram of this testing shall be created for each floor where coverage is provided, indicating the testing grid used for the test in Section 510.5.3(1), and including signal strengths and frequencies for each test area. Indicate all critical areas.

3. Functional talk-back testing shall be conducted using two calibrated portable radios of the latest brand and model used by the agency's radio communications system or other equipment approved by the fire code official. Testing shall use Digital Audible Quality (DAQ) metrics, where a passing result is a DAQ of 3 or higher. Communications between handsets shall be tested and recorded in the grid square diagram required by section 510.5.3(2): each grid square on each floor; between each critical area and a radio outside the building; between each critical area and the fire command center or fire alarm control panel; between each landing in each stairwell and the fire command center or fire alarm control panel.

4. Failure of more than 5% of the test areas on any floor shall result in failure of the test.

Exception: Critical areas shall be provided with 99 percent floor area coverage.

5. In the event that two 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 not more than two 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.

6. 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 to be a failure of that test area. Additional test locations shall not be permitted.

7. The gain values of all amplifiers 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.

8. 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 signal booster. This test shall be conducted at the time of installation and at subsequent annual inspections.

9. Systems incorporating Class B signal booster devices or Class B broadband fiber remote devices shall be tested using two portable radios simultaneously conducting subjective voice quality checks. One portable radio shall be positioned not greater than 10 feet (3048 mm) from the indoor antenna. The second portable radio shall be positioned at a distance that represents the farthest distance from any indoor antenna. With both portable radios simultaneously keyed up on different frequencies within the same band, subjective audio testing shall be conducted and comply with DAQ levels as specified in Sections 510.4.1.1 and 510.4.1.2.

10. Documentation maintained on premises. At the conclusion of the testing, and prior to issuance of the building Certificate of Occupancy, the building owner or owner's representative shall place a copy of the following records in the DAS enclosure or the building engineer's office. The records shall be available to the fire code official and maintained by the building owner for the life of the system:

- a. A certification letter stating that the emergency responder radio coverage system has been installed and tested in accordance with this code, and that the system is complete and fully functional.
- b. The grid square diagram created as part of testing in Sections 510.5.3(2) and 510.5.3(3).
- c. Data sheets and/or manufacturer specifications for the emergency responder radio coverage system equipment; back up battery; and charging system (if utilized).
- d. A diagram showing device locations and wiring schematic,
- e. A copy of the electrical permit.

11. Acceptance test reporting to fire code official. At the conclusion of the testing, and prior to issuance of the building Certificate of Occupancy, the building owner or owner's representative shall submit to the fire code official a report of the acceptance test by way of the department's third-party vendor thecomplianceengine.com.

510.5.4 FCC compliance. The emergency responder radio coverage system installation and components shall comply with all applicable federal regulations including, but not limited to, FCC 47 CFR Part 90.219.

510.5.5 Mounting of the donor antenna(s). To maintain proper alignment with the system designed donor site, donor antennas shall be permanently affixed on the highest possible position on the building or where approved by the fire code official. A clearly visible sign shall be placed near the antenna stating, "movement or repositioning of this antenna is prohibited without approval from the fire code official." The antenna installation shall be in accordance with the applicable requirements in the International Building Code for weather protection of the building envelope.

510.5.6 Wiring. The backbone, antenna distribution, radiating, or any fiber-optic cables shall be rated as plenum cables. The backbone cables shall be connected to the antenna distribution, radiating, or copper cables using hybrid coupler devices of a value determined by the overall design. Backbone cables shall be routed through an enclosure that matches the building's required fire-resistance rating for shafts or interior exit stairways. The connection between the backbone cable and the antenna cables shall be made within an enclosure that matches the building's fire-resistance rating for shafts or interior exit stairways, and passage of the antenna

distribution cable in and out of the enclosure shall be protected as a penetration per the International Building Code.

510.5.7 Identification Signs. Emergency responder radio coverage systems shall be identified by an approved sign located on or near the Fire Alarm Control Panel or other approved location stating “This building is equipped with an Emergency Responder Radio Coverage System. Control Equipment located in room (insert information provided by owner)”.

A sign stating “Emergency Responder Radio Coverage System Equipment” shall be placed on or adjacent to the door of the room containing the main system components.

510.6 Maintenance. The emergency responder radio coverage system shall be maintained operational at all times in accordance with Sections 510.6.1 through 510.6.4.

Agent shall have the emergency responder radio coverage system inspected and tested annually or where structural changes occur including additions or remodels that could materially change the original field performance tests. Testing shall consist of the following items (1) through (7):

1. In-building coverage test as required by the fire code official as described in Section 510.5.3 “Acceptance test procedure” or 510.6.1.1 “Alternative in-building coverage test”.

Exception: Group R Occupancy annual testing is not required within dwelling units.

2. Signal boosters shall be tested to verify that the gain/output level is the same as it was upon initial installation and acceptance or set to optimize the performance of the system.

3. Backup batteries and power supplies shall be tested under load of a period of 2 hours to verify that they will properly operate during an actual power outage. If within the 2-hour test period the battery exhibits symptoms of failure, the test shall be extended for additional 1-hour periods until the integrity of the battery can be determined.

4. If a fire alarm system is present in the building, a test shall be conducted to verify that the fire alarm system is properly supervising the emergency responder communication system as required in Section 510.4.2.5. The test is performed by simulating alarms to the fire alarm control panel. The certifications in Section 510.5.2 are sufficient for the personnel performing this testing.

5. Other active components shall be checked to verify operation within the manufacturer’s specifications.

6. At the conclusion of the testing, a report, which shall verify compliance with Section 510.6.1, shall be submitted to the fire code official by way of the department's third-party vendor thecomplianceengine.com

7. At the conclusion of testing, a record of the inspection and maintenance along with an updated grid diagram of each floor showing tested strengths in each grid square and each critical area shall be added to the documentation maintained on the premises in accordance with Section 510.5.3.

510.6.1.1 Alternative In-building coverage test. When the comprehensive test documentation required by Section 510.5.3 is available, or the most recent full five-year test results are available if the system is older than six years, the in-building coverage test required by the fire code official in Section 510.6.1(1), may be conducted as follows:

1. Functional talk-back testing shall be conducted using two calibrated portable radios of the latest brand and model used by the agency's radio communications system or other equipment approved by the fire code official. Testing shall use Digital Audible Quality (DAQ) metrics, where a passing result is a DAQ of 3 or higher. Communications between handsets in the following locations shall be tested: between the fire command center or fire alarm control panel and a location outside the building; between the fire alarm control panel and each landing in each stairwell.

2. Coverage testing of signal strength shall be conducted using a calibrated spectrum analyzer for:

(a) Three grid areas per floor. The three grid areas to be tested on each floor are the three grid areas with poorest performance in the acceptance test or the most recent annual test, whichever is more recent; and

(b) Each of the critical areas identified in acceptance test documentation required by Section 510.5.3, or as modified by the fire code official, and

(c) One grid square per serving antenna.

3. The test area boundaries shall not deviate from the areas established at the time of the acceptance test, or as modified by the fire code official. The building shall be considered to have acceptable emergency responder radio coverage when the required signal strength requirements in 510.4.1.1 and 510.4.1.2 are located in 95 percent of all areas on each floor of the building and 99 percent in Critical Areas, and any non-functional serving antenna are repaired to function within normal ranges. If the documentation of the acceptance test or most recent previous annual test results are not available or acceptable to the fire code official, the radio coverage verification testing described in 510.5.3 shall be conducted.

Point of Information

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The alternative in-building coverage test provides an alternative testing protocol for the in-building coverage test in subsection (1) of section 510.6.1. There is no change or alternative to annual testing requirements enumerated in subsections (2) – (7) of Section 510.6.1, which must be performed at the time of each annual test.

510.6.2 Additional frequencies. The building owner shall modify or expand the emergency responder radio coverage system at his or her expense in the event frequency changes are required by the FCC or other radio licensing authority, or additional frequencies are made available by the FCC Public Safety Radio System Operator or FCC license holder. Prior approval of a public safety radio coverage system on previous frequencies does not exempt this section.

510.6.3 Nonpublic safety system. Where other nonpublic safety amplification systems installed in buildings reduce the performance or cause interference with the emergency responder communications coverage system, the nonpublic safety amplification system shall be corrected or removed.

510.6.4 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 or to disable a system that due to malfunction or poor maintenance has the potential to impact the emergency responder radio system in the region.

15.18.380 Thresholds.

~~1010.1.7~~ 1010.1.6 IFC Section ~~1010.1.7~~ 1010.1.6 amended – Thresholds.

IFC ~~1010.1.7~~ 1010.1.6 is hereby amended to read as follows:

~~1010.1.7~~ 1010.1.6 Thresholds. Thresholds at doorways shall not exceed 3/4 inch (19.1 mm) in height above the finished floor or landing for sliding doors serving dwelling units or 1/2 inch (12.7 mm) above the finished floor or landing for other doors. Raised thresholds and floor level changes greater than 1/4 inch (6.4 mm) at doorways shall be beveled with a slope not greater than one-unit vertical in two units horizontal (50-percent slope).

Exceptions:

Occupancy Group R-2 or R-3, threshold heights for sliding and side-hinged exterior doors shall be permitted to be up to 7 3/4 inches (197 mm) in height if all of the following apply:

- 1.1. The door is not part of the required means of egress.
- 1.2. The door is not part of an accessible route as required by Chapter 11.
- 1.3. The door is not part of an Accessible unit, Type A unit or Type B unit.

2. In Type B units, where Exception 5 to Section 1010.1.5 permits a 4-inch (102 mm) elevation change at the door, the threshold height on the exterior side of the door shall not exceed 4 3/4 inches (120 mm) in height above the exterior deck, patio or balcony for sliding doors or 4 1/2 inches (114 mm) above the exterior deck, patio or balcony for other doors.
3. Thresholds at doors serving non-occupiable transformer rooms where emergency containment of oil and sprinkler water is required.

15.18.510 On-demand mobile fueling operations.

Section 5707 of the International Fire Code is hereby amended to read as follows:

SECTION 5707 ON DEMAND MOBILE FUELING OPERATIONS

~~5707.1 General. On-demand mobile fueling operations that dispense Class I, II and III liquids into the fuel tanks of motor vehicles shall comply with Sections 5707.1 through 5707.6.6.~~

~~Exception: Fueling from an approved portable container in cases of an emergency or for personal use.~~

~~5707.1.1 Approval required. Mobile fueling operations shall not be conducted without first obtaining a permit and approval from the fire code official. Mobile fueling operations shall occur only at approved locations. The fire code official is authorized to approve individual locations or geographic areas where mobile fueling is allowed.~~

~~5707.2 Mobile fueling vehicle. An on-demand mobile fueling vehicle shall be that which is utilized in on-demand fueling operations for the dispensing of Class I, II or III liquids into the fuel tanks of motor vehicles.~~

~~5707.2.1 Mobile fueling vehicle classifications. An on-demand mobile fueling vehicle shall be characterized one of the following:~~

~~1. Tier 1 Mobile Fueling Vehicle A tank vehicle that complies with NFPA 385 and that has chassis mounted tanks where the aggregate capacity does not exceed 1600 gallons (6057 L).~~

~~2. Tier 2 Mobile Fueling Vehicle A vehicle with one or more chassis mounted tanks or chassis mounted containers, not to exceed 110 gallons (415 L) capacity and having an aggregate capacity that does not exceed 800 gallons (3028 L) or the weight capacity of the vehicle in accordance with DOT.~~

~~3. Tier 3 Mobile Fueling Vehicle A vehicle that carries a maximum aggregate capacity of 60 gallons (227 L) of motor fuel in metal safety cans listed in accordance with UL 30 or other approved metal containers, each not to exceed 5 gallons (19 L) in capacity.~~

~~5707.2.2 Mobile fueling vehicle requirements. Each mobile fueling vehicle shall comply with all local, state and federal requirements, as well as the following:~~

- ~~1. Mobile fueling vehicles with a chassis mounted tank in excess of 110 gallons (415 L) shall also comply with the requirements of Section 5706.6 and NFPA 385.~~
- ~~2. The mobile fueling vehicle and its equipment shall be maintained in good repair.~~
- ~~3. Safety cans and approved metal containers shall be secured to the mobile fueling vehicle except when in use.~~
- ~~4. Fueling a motor vehicle from tanks or containers mounted in a trailer connected to a mobile fueling vehicle shall be prohibited.~~

~~5707.3 Required documents. Documents developed to comply with Sections 5707.3.1 through 5707.3.3 shall be updated as necessary by the owner of the mobile fueling operation and shall be maintained in compliance with Section 108.3.~~

~~5707.3.1 Safety and emergency response plan. Mobile fueling operators shall have an approved written safety and emergency response plan that establishes policies and procedures for fire safety, spill prevention and control, personnel training and compliance with other applicable requirements of this code.~~

~~5707.3.2 Training records. Mobile fueling vehicles shall be operated only by designated personnel who are trained on proper fueling procedures and the safety and emergency response plan. Training records of operators shall be maintained.~~

~~5707.3.3 Site plan. Where required by the fire code official, a site plan shall be developed for each location or area at which mobile fueling occurs. The site plan shall be in sufficient detail to clearly indicate the following:~~

- ~~1. All buildings, structures;~~
- ~~2. Lot lines or, property lines;~~
- ~~3. Electric car chargers;~~
- ~~4. Solar photovoltaic parking lot canopies;~~
- ~~5. Appurtenances on site and their use or function;~~
- ~~6. All uses adjacent to the lot lines of the site;~~
- ~~7. Fueling locations;~~
- ~~8. Locations of all storm drain openings and adjacent waterways or wetlands;~~
- ~~9. Information regarding slope, natural drainage, curbing, impounding;~~
- ~~10. How a spill will be kept on the site property; and~~
- ~~11. Scale of the site plan.~~

~~5707.4 Mobile fueling areas. The mobile fueling vehicle and point of connection of the vehicle being fueled shall not occur on public streets, public ways or inside buildings. Fueling on the roof level of parking structures or other buildings is prohibited.~~

~~5707.4.1 Separation. The point of connection of the vehicle being fueled shall not take place within 25 feet (7620 mm) of buildings, lot lines, property lines or combustible storage. Mobile fueling vehicles shall not park within 10 feet (3048 mm) of buildings, lot lines, property lines, or combustible storage.~~

~~Exceptions:~~

~~1. The fire code official shall be authorized to decrease the separation distance for dispensing from metal safety cans or other approved metal containers in accordance with Section 5707.2.~~

~~2. The point of fueling shall not take place within 10 feet (3048 mm) of buildings, lot lines, property lines, or combustible storage when the mobile fueling vehicle has an approved vapor recovery system or is servicing vehicles with on board refueling vapor recovery.~~

~~Where dispensing operations occur within 15 feet (4572 mm) of a storm drain, an approved storm drain cover or an approved equivalent method that will prevent any fuel from reaching the drain shall be used.~~

~~5707.4.3 Electrical equipment. Mobile fueling shall not occur within 20 feet of electrical equipment located within 18 inches of the ground unless such electrical equipment is rated for Class 1, Division 2 hazardous locations in accordance with the National Electrical Code.~~

~~5707.4.2 Sources of ignition. Smoking, open flames and other sources of ignition shall be prohibited within 25 feet (7620 mm) of fuel dispensing activities. Signs prohibiting smoking or open flames within 25 feet (7620 mm) of the vehicle or the point of fueling shall be prominently posted on the mobile fueling vehicle. The engines of vehicles being fueled shall be shut off during fueling.~~

~~5707.5 Equipment. Mobile fueling equipment shall comply with Sections 5707.5.1 through 5707.5.((1))5.~~

~~5707.5.1 Dispensing hoses and nozzles. Where equipped, the dispensing hose shall not exceed 50 feet (15 240 mm) in length. The dispensing nozzles and hoses shall be of an approved and listed type. Where metal to metal contact cannot be made between the nozzle and the fuel fill opening, then a means for bonding the mobile fueling vehicle to the motor vehicle shall be provided and employed during fueling operations.~~

~~5707.5.2 Break away device. A listed break away device shall be provided at the nozzle.~~

~~Exception: Mobile fueling vehicles equipped with an approved brake interlock tied to the nozzle holder that prohibits movement of the mobile fueling vehicle when the nozzle is removed from its holder or tied to the delivery of fuel that prevents activation of the pumping system.~~

~~5707.5.3 Shut off valve and fuel limit. Mobile fueling vehicles shall be equipped with a listed shutoff valve assembly and a fuel limit switch set to a maximum of 30 gallons (116 L).~~

~~5707.5.4 Fire extinguisher. An approved portable fire extinguisher complying with Section 906 with a minimum rating of 4A:80 B:C shall be provided on the mobile fueling vehicle with signage clearly indicating its location.~~

~~5707.5.5 Spill kit. Mobile fueling vehicles shall contain a minimum 5-gallon (19 L) spill kit of an approved type.~~

~~5707.6 Operations. Mobile fueling vehicles shall be constantly attended during fueling operations with brakes set and warning lights in operation. Mobile fueling vehicles shall not obstruct emergency vehicle access roads.~~

~~5707.6.1 Dispensing hose. Where equipped, mobile fueling vehicles shall be positioned in a manner to preclude traffic from driving over the dispensing hose. The dispensing hose shall be properly placed on an approved reel or in an approved compartment prior to moving the mobile fueling vehicle.~~

~~5707.6.2 Drip control. Operators shall place a drip pan or an absorbent pillow under the nozzle and each fuel fill opening prior to and during dispensing operations to catch drips.~~

~~5707.6.3 Safety cones. Safety cones or other visual barriers shall be employed as warning devices to highlight the vehicle fueling area.~~

~~5707.6.4 Vehicle lights. The mobile fueling vehicle flasher lights shall be in operation while dispensing operations are in progress.~~

~~5707.6.5 Nighttime deliveries. Nighttime deliveries shall only be made in areas deemed adequately lighted by the fire code official.~~

~~5707.6.6 Spill reporting. Spills shall be reported in accordance with Section 5003.3.1.~~

15.18.530 Reference standards.

Chapter 80 of the International Fire Code amended – NFPA 1221.

Reference to NFPA 1221 – 2016-2019: Standard for the Installation, Maintenance and Use of Emergency Services Communication Systems is amended to read as follows:

NFPA 1221 – 2019: Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems

EXHIBIT B-22