Specification and Requirements for In Building Emergency Responder Coverage System

Portsmouth Fire Department has developed this specification in conjunction with the requirements from 2021 NFPA 1 (NH state fire code) which references 2019 NFPA 1221 and 2019 NFPA 72. Only systems listed to UL2524, 2nd or 3rd edition shall be permitted. (1221.9.6.11) A remote annunciator shall be required, ask for where. (1221.9.6.13.2.1)

Property owners who maintain compliance with this specification are granted permission to operate an In-Building Emergency Responder Coverage System (IBERCS) on frequencies licensed to the City of Portsmouth Fire and Police Departments by the Federal Communications Commission.

Failure to maintain compliance with this document will result in the automatic withdrawal of said permissions. Failure to adhere to the procedures contained here shall also result in permissions withdrawn to perform any work in connection with an IBERC for the person failing to adhere and the company they represent for a period of one year.

Prior to performing a survey/radio strength test: Written/emailed permission must be obtained from the Fire Prevention Bureau. A form at the end of this document shall be filled out and emailed to fireprevention@cityofportsmouth.com.

Prior to the construction of an In-Building Emergency Responder Coverage System (IBERCS), a fire alarm permit must be applied at the city's online permitting system here: https://portsmouthnh.viewpointcloud.com/categories/1083/record-types/6386

TESTING AND MAINTANANCE CONSIDERATIONS

Once an IBERCS has been installed, during commissioning and each subsequent year the building owner shall perform all manufacturer test, inspection and maintenance tasks and others as required by the codes referenced at the top.

Every five years a radio coverage test shall be conducted to ensure that the radio system continues to meet the requirements of this ordinance. This documents procedures listed below shall be followed in the same manner as an initial survey/radio strength test.

PORTSMOUTH FIRE DEPARTMENT

FIRE PREVENTION BUREAU

Steps to perform a survey/radio strength test

Email fireprevention@cityofportsmouth.com this form with pages 4 and 5 filled out requesting permission to test. Include the days and times you wish to test.

Once you receive a confirmation email back but, prior to testing, the technician shall call Portsmouth Dispatch at 603.427.1565 to notify the on duty dispatcher you will be testing. The technician shall provide their call back number and an estimate of when testing will commence and when it will end.

During testing: When radio traffic is generated by any police unit, fire unit or dispatcher, the technician shall pause testing until the channel is clear. In the case of a long duration event such as a reported fire, police standoff, etc. or the message "signal 1000" is transmitted, the technician shall cease testing entirely. Depending on the circumstances of the event, the technician may need to reschedule testing. During a long duration event, the technician may attempt to contact the dispatcher, once, to inform them they are stopping testing. If there is a lot going on and you cannot get through or the technician has determined it best not to call, this is understood.

Under normal circumstances, once testing is completed the technician shall call Portsmouth Dispatch at 603.427.1565 to advise the dispatcher on duty testing is complete.

After testing is complete, the technician shall complete the remainder of the form and submit it electronically with the required attachments lists on the form to fireprevention@cityofportsmouth.com for review.

When it is determined a BDA/DAS is required, a fire alarm permit shall be obtained prior to installation.

Frequencies required for testing:

Downlink frequency for Portsmouth Fire – 154.340 MHz

Uplink frequency for Portsmouth Fire – 158.805 MHz

Downlink frequency for Portsmouth Police – 154.740 MHz

Uplink frequency for Portsmouth Police – 155.985 Mhz

RXPL/NAC and TXPL/NAC -88A

All down link test readings shall be reported as dBm

All uplink test readings shall be shall be reported as DAQ

Downlink readings at or below -95dBm is a failure. All uplink reading below 3.0 DAQ is a failure

Building Survey/Radio Strength Test for IBERCS

RESULTS:	Coverage meets code requirements throughout building ☐	Coverage does not meet coverage requirements in some or all of the building ☐

Purpose of Form: Use this form to document that a building (or portions of a building) have adequate signal strength for emergency responder radios and therefore do not require a Bi-Directional Amplifiers/Distributed Antenna Systems (BDA/ DAS) When this form is used in conjunction with a new construction projects, core and shell construction, including all windows, doors, floors and walls, shall be completed prior to radio signal testing and assumptions shall be provided for additional signal limitations from anticipated tenant improvements in shell areas.

Frequencies: Downlink-Fire–154.340 MHz, Uplink Fire–158.805 MHz, Downlink Police–154.740 MHz, Uplink Police–155.740 Mhz. All downlink test readings shall be reported as dBm. All uplink test readings shall be shall be reported as DAQ. Downlink readings at or below -95dBm is a failure. All uplink reading S below 3.0 DAQ is a failure.

SECTION 1 BUILDING INFORMATION

Building Name:

Building Address:

SECTION 2 TESTING COMPANY, TECHNICIAN AND EQUIPMENT

Section 2.1 Testing Company Information

Company Name: Mailing Address:	Manager: Phone Email:

Section 2.2 Technician Information

Technician Name:	Phone:

Technician FCC Certification/GROL#:

List the qualifications (beyond a GROL)
the technician performing test has:

Specify name manufacturer training received and when:

Section 2.3 Testing Equipment Used for Assessment

*** Use of a calibrated spectrum analyzer, with a current calibration, is required for any surveying/testing*

Spectrum analyzer make/model**:

Spectrum analyzer calibration date:

Calibration performed by firm (qualified firm name):

SECTION 3 RADIO COVERAGE ASSESSMENT RESULTS (CHOOSE *ONE* ONLY)

Date of Assessment:

☐ **PASS**

The entire building in its current configuration provides adequate signal coverage in 90% of all areas of each floor of the building and 99% of the area of critical areas defined in 2019 NFPA 1221 9.6.7.3 and 9.6.7.4

☐ **PARTIAL PASS**

The following portions of the building in the current configuration provide adequate signal coverage and should not need any additional BDA/DAS infrastructure (include descriptors such as directional, floor, wing):

The following portions of the building do not provide adequate signal coverage and will need additional BDA/DAS infrastructure to improve signal strength and meet fire code requirements (include descriptors such as directional, floor, wing):

☐ **FAIL**

The building area provides inadequate signal coverage and will need additional BDA/DAS infrastructure to improve signal strength and meet fire code requirements. Notes:

SECTION 4 REQUIRED DOCUMENTATION

A copy of the following documents is attached to this report:

4.1 Grid diagram for each floor, showing test signal strengths in each floor, and indicating location of each critical area. ☐ Yes ☐ No

4.2 Copy of General Radio telephone Operator's License for technician listed in section 2.2 above. ☐ Yes ☐ No

4.3 The form and attachments have been submitted to fireprevention@cityportsmouth.com ☐ Yes ☐ No

SECTION 5 ATTESTATION

By accepting this statement I, the FCC-licensed technician shown on this form, certify that I have properly assessed radio signal strength and have accurately provided results in section 3 above, indicating whether the building or portions of the building have signal strength meeting the requirements in 2019 NFPA 1221 9.6.7.3 and 9.6.7.4 ☐ Yes ☐ No

SIGNATURE

Signature of Technician	Date

SUBMIT THIS FORM TO THE FIRE DEPARTMENTWITH REQUIRED DOCUMENTATION TO FIREPREVENTION@CITYOFPORTSMOUTH.COM