

## **NEW ENGLAND REGION 19 700 MHZ CHANNEL APPLICATION PROCEDURES**

Public safety users wishing to apply for channels in the 769-775 MHz and 799-805 MHz bands identified by the Federal Communications Commission must meet eligibility and coordination rules established by the Regional Planning Committee. Applications must be submitted to one of the following coordination agencies or an FCC approved coordination agency for completion and accuracy before being submitted to the Regional Planning Committee. FCC approved coordination agencies are listed as:

- Local Government Services and Police Services - Association of Public Safety Communications Officials (APCO) [www.apcointl.org](http://www.apcointl.org)
- Fire Service - International Municipal Signal Association (IMSA) [www.imsasafety.org](http://www.imsasafety.org)
- Forestry Conservation Services - Forestry Conservation Communications Association (FCCA) [www.fcca-usa.org](http://www.fcca-usa.org)
- Highway Maintenance Services - American Association of State Highway and Transportation Officials (AASHTO) [www.transportation.org](http://www.transportation.org)

### **REGIONAL PLANNING COMMITTEE APPLICATION PROCEDURES**

Applications for frequencies in the 769-775 MHz and 799-805 MHz spectrum are subject to pre-application review of operational requirements as established by the FCC in the category into which they fall. Each designated committee shall establish the requirements for use of the respective frequency allocations under their jurisdiction. The categories are:

- Interoperability Spectrum
- State Spectrum (State Band Manager)
- Reserved Spectrum (To be determined by the FCC)
- General Use Spectrum.

**Interoperability Spectrum** - Frequency use in this category will be allocated by each member State's Interoperability Executive Committee, SIEC, if one exists, or by the Region 19 Regional Planning Committee if there is no SEIC. The designated use of the Interoperability Channels will adhere to the recommendations of the Public Safety National Coordination Committee.

The FCC designated approximately 10 percent (2.6 MHz) of the 700 MHz Public Safety Spectrum for nationwide interoperability communications. State-level organizations are usually in control at large-scale events and disasters or multi-agency incidents. Although the Commission supports the creation of SIECs, some states already have a mechanism in place that is equivalent of an SIEC that could administer the Interoperability channels. The RPC will develop the Interoperability Plan, review applications for base stations, and provide pre-coordination technical review.

The first responsibility is to develop an Interoperability Plan. The plan would decide who will hold the license for the Interoperability Spectrum, as well as to resolve licensing issues. Other responsibilities involved in administering the Interoperability channels include the creation and oversight of incident response protocols, creation of chains of command for incident response and reporting, and executing Memoranda of Understanding and Sharing Agreements. Vermont has delegated the approval process for Interoperability channels to the Regional Planning Committee. Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have assumed the responsibility for their respective interoperability plans.

On occasion, the FCC will publish notices and bulletins on their internet website. These FCC “Public Notice” 700 MHz Public Safety Band – Announcement of Updates of Interoperability Spectrum Administration Decisions are found in Appendix J.

The individual State Interoperability Spectrum Points of Contact for the New England Region, Region 19, is found in Table 1.

<b>Connecticut:</b> Department of Information Technology Chief Information Officer Diane Wallace State of Connecticut 101 East River Drive East Hartford, CT 06108-3285 Phone: (860) 622-2419 Email: <a href="mailto:diane.wallace@ct.gov">diane.wallace@ct.gov</a>	<b>Massachusetts:</b> Commonwealth of Massachusetts Department of State Police Blair Sutherland, Director, Telecommunications 470 Worcester Road Framingham, MA 01702 Phone: (508) 820-2264 Email: <a href="mailto:Sutherland@pol.state.ma.us">Sutherland@pol.state.ma.us</a>
<b>New Hampshire:</b> New Hampshire Department of Public Safety Division of State Police Jim Kowalik Communications Maintenance Supervisor 10 Hazen Drive Concord, NH 03305 Phone: (603) 271-2421 Email: <a href="mailto:jkowalik@safety.state.nh.us">jkowalik@safety.state.nh.us</a>	<b>Rhode Island:</b> Rhode Island State Police Thomas Crotty Radio Communications Director 311 Danielson Pike North Scituate, RI 02857 Phone: (401) 444-1185 Email: <a href="mailto:tcrotty@risp.state.ri.us">tcrotty@risp.state.ri.us</a>
<b>Maine:</b> Maine State Police Mark W. Poole 36 Hospital Street Augusta, ME 04333 Phone: (207) 624-7091 Email: <a href="mailto:mark.w.poole@maine.gov">mark.w.poole@maine.gov</a>	<b>Vermont:</b> Region 19 – 700 MHz Regional Planning Committee will administer. Region 19 Chairman, George Pohorilak 1111 Country Club Middletown, CT 06457 Phone: (860) 685-8080

Table 1: Region 19 Interoperability Spectrum Points of Contact

**State Spectrum** - Frequency use in this category will be allocated by the State Band Manager of each member State in Region 19 or by the Region 19 Regional Planning Committee, if so designated. State Band Managers shall be responsible for planning and managing the frequency database and shared use of the State Spectrum with the bordering State Band Managers, through the Regional Planning Committee. The designated State Band Manager, or Committee, shall establish the requirements for use of the respective frequency allocations under their jurisdiction and file their plans for approval with the New England Region 19 700 MHz Planning Committee.

The state license is a geographic area license based on state boundaries. It differs from site-based licensing which is the normal type of public safety licensing. State licensees are subject to the general limits that govern geographic area licenses, including antenna structures and air navigation, international coordination, and environmental requirements including quiet zones. The governor, or designee, of each state had the option to apply for up to 2.4 megahertz of spectrum, all narrowband channels, of the 700 MHz band Public Safety spectrum. The application deadline was December 31, 2001. Whatever spectrum was not applied for by this deadline, reverted to General Use Public Safety Spectrum and will be administered by the Regional Planning Committee, or RPC. All states, and the District of Columbia, were granted licenses on January 18, 2002.

The FCC established certain construction and operation requirements to ensure efficient use of the spectrum, including the provision of service to rural and remote areas. The initial construction/operation benchmark was set at 5 years. However, because broadcasters are not required to complete relocations until December 31, 2006, the starting date for calculating the 5-year benchmark is January 1, 2007. As a practical matter, this means that each state license will be granted subject to the condition that the state is providing, or preparing to provide, substantial service to one-third of their population or territory by January 1, 2012 and to two-thirds by January 1, 2017.

States may begin using the state license spectrum when:

- Full power TV or DTV stations vacate the 700 MHz spectrum, and
- Project 25 Phase 1 equipment is available for purchase, and
- The following general operating and technical requirements are met:
  - Coordinating transmitting sites near the U.S./Canada border, and
  - Compliance in quiet zones, and
  - Registration of antenna structures with the FAA and FCC as required under Part 17 of the Commission's Rules.

For further information about the State license, see the Commission's Rules, refer to Appendix K.

**Reserved Spectrum** - Frequency use in this category will be recommended by the Region 19 Regional Planning Committee if and when the FCC allocates spectrum.

**General Use Spectrum** - Frequency use in this category will be recommended by the Region 19 Regional Planning Committee.

All agencies requesting spectrum during the initial filing window will be allotted channels if all plan requirements are met. Allotments given in the first window period will be made in multiples of 6.25 KHz units to allow for implementation of various technologies. Technologies requiring 25 KHz will be allotted four 6.25 KHz units. Requests for voice/data channels will be allocated on the basis of two 6.25 KHz units to accommodate one 12.5 KHz channel per voice channel. For narrowband mobile data requests, one mobile data channel will consist of two (2) 6.25 KHz units to accommodate one 12.5 KHz channel. Allotments given after January 1, 2007 will be made in 6.25 KHz units. Applicants should acknowledge their migration path to 6.25 KHz to the Regional Planning Committee when applying for channels in Region 19.

The RPC may request additional information from the requesting agency. This information will aid in the validation of actual spectrum need and help to insure that no requests are duplicated when requests involve multi-agency systems. Small agencies are encouraged to join multi-agency systems, when possible.

### **REGION 19 REGIONAL PLANNING COMMITTEE PROCEDURES:**

To ensure that all eligible agencies have an equal opportunity to apply for the limited 769-775 MHz and 799-805 MHz spectrum approved by the Federal Communications Commission, the Region 19 Regional Planning Committee will accept applications from eligible entities during two application windows per year. The applications windows are established as May 1 of each calendar year through October 31 of that same year, and November 1 of each calendar year through April 30 of the following year.

The application must contain all information requested and postmarked no later than these dates before being accepted for review by the Committee.

Applications received by November 1, will be reviewed at the Committee's December meeting and voted on at the following March meeting.

Applications received by May 1, will be reviewed at the Committee's June meeting and voted on at the following September meeting.

The application is found as an attachment to this document and is available at [www.ner700mhz.org](http://www.ner700mhz.org). The application must be provided in both electronic media and paper copy.

Mail the completed application in electronic media (20 copies on CD or equivalent) and 3 paper copies to:

Mr. George Pohorilak - Chairman  
New England Region 700 MHz Regional Planning Committee  
FCC Region 19  
1111 Country Club Road  
Middletown, CT 06457  
Email: [george.pohorilak@po.state.ct.us](mailto:george.pohorilak@po.state.ct.us)

### **APPLICATION PROCEDURES OVERVIEW**

The Committee evaluates and scores each application and compiles a prioritized list of the approved entities and the number of channels they are eligible to receive. The number may be less than the number requested. Channel allocations are approved after analysis by a committee-approved computer engineering program which tests all possible configurations of channels by considering the proposed service area, topography, and the technical parameters and frequency compatibility of existing (incumbent) and proposed systems. (The committee may approve the use of the Computer Aided Pre-Coordination Resource And Database (CAPRAD) system developed and administered by the National Law Enforcement and Corrections Technology Center-Rocky Mountain Region, Denver, CO. This database is designed to facilitate inter-regional coordination of frequencies, provide search and report generating tools, and create a direct interface link to the FCC's Universal Licensing System.)

(The technical parameters and compatibility criteria tested shall be based on those parameters described in TIA Telecommunications Systems Bulletin TSB88B – latest published version, “Wireless Communications Systems - Performance in Noise and Interference-Limited Situations Recommended Methods for Technology-Independent Modeling, Simulation, and Verification.” This document seeks to provide guidance to spectrum managers, system designers and system maintainers for a standardized approach to proof-of-performance and acceptance testing of public safety systems.) The analysis process will produce a list of available channels which may or may not be sufficient to meet the requirements of all applicants. It is possible that an applicant low on the priority list will receive an assignment of channels while none is available for an applicant with a higher priority.

## **TECHNICAL EVALUATION APPROVAL PROCEDURES**

All applications or planned use of Region 19 700 MHz spectrum must undergo a technical evaluation examining the proposed use of 700 MHz channels.

Spectrum Allocation Matrix - See Section 10, Scoring Matrix and Worksheet of the New England 700MHz Regional Plan Region 19 for more detail.

### **Technical Requirements**

#### **Spectrum Utilization**

The Region 19 Planning committee will adhere to the National Public Safety Telecommunications Council's (NPSTC) 700 MHz General Use Channel sort as shown on the CAPRAD database for narrowband General Use Channels (See New England 700MHz Regional Plan Region 19, Appendix L). Region 19 will participate in the CAPRAD database and keep the Regional Plan and current frequency allotment/allocation information on the database.

The Region 19 Planning Committee has the ability to accept recommendations from the committee and, if approved, the authority to change the original frequency allotment. In order to keep the most effective frequency allotments within Region 19, a quarterly review of the allotments will be made at the scheduled meetings by the full committee and recommended changes to the plan will be voted on. The majority of members in attendance at a meeting of the full Regional Planning Committee must approve any changes to the Regional allotments.

If at any time a system is allocated channels within Region 19 and the system cannot be developed within the agreed upon guidelines (slow growth), the channels will be returned to the county pool allotments they originated from and again be available to other agencies in the county. If plan modifications are approved, the Chairperson will, if necessary, obtain adjacent Region approval and file a plan amendment indicating the approved changes with the Federal Communications Commission.

In this plan, the 700 MHz committee is striving to utilize the spectrum as efficiently as possible. The total request for general pool voice and narrowband data totals 1,232 channels. Allotments will be made on the basis of one 6.25 KHz channel for each voice channel. For each narrowband data channel (request of less than 19.2 kbps) the allocation of two 6.25 KHz units will be made to accommodate 12.5 KHz of spectrum. This conforms to the FCC intent to recommend use of technology that yields one voice path for each 6.25 KHz of spectrum.

#### Procedure for Frequency Coordination

Assignments will be based on a defined service area of each applicant. This will normally be an area defined by geographical or political boundaries such as city, county or by a data file consisting of line segments creating a polygon that encloses the defined area. The service contour is normally allowed to extend slightly beyond the geo/political boundaries such that systems can be designed for maximum signal levels within the boundaries, or coverage area. Systems must also be designed to minimize signal levels outside their geo/political boundaries to avoid interference into the coverage area of other co-channel users.

For co-channel assignments, the 40dB $\mu$  service contour will be allowed to extend beyond the defined service area by 3 to 5 miles (5 to 8 Km), depending on the type of environment: urban, suburban or rural. The co-channel 5 dB $\mu$  interfering contour will be allowed to touch but not overlap the 40 dB $\mu$  service contour of the system being evaluated. All contours are (50,50).

For adjacent and alternate channels, the 65dB $\mu$  interfering contour will be allowed to touch but not overlap the 40 dB $\mu$  service contour of the system being evaluated. All contours are (50,50).

Applicants must provide data showing that practical field tests have been conducted. An overall system diagram showing the latitude, longitude and elevation (meters) of the site(s), power out, ERP, and antenna height must be provided. In addition, the applicant must provide antenna specifications for each site(s).

Due to the existing TV assignments and HDTV assignments, most of Region 19 cannot use this spectrum until the HDTV implementation is completed. Given this date uncertainty, this plan does not limit an agency from initially planning/implementing a system (if it conforms to FCC rules).

#### Low Power Assignments

Channel assignments for low power portables shall have a maximum ERP of 2W. Low power mobiles shall be required to operate with an ERP of 2W with an antenna not to exceed seven meters from the ground elevation. An applicant may request, under special circumstances, an ERP of 5W for a mobile unit with the identified antenna restriction of seven meters.

## **REGION 19 REGIONAL PLANNING COMMITTEE SCORING PROCEDURES**

Refer to Scoring Matrix and Matrix Worksheet located in the New England 700MHz Regional Plan Region 19, Section 10.

## **REGION 19 700 MHz RPC APPLICATION PROCEDURES**

To ensure that all eligible agencies have an equal opportunity to apply for the limited 769-775 MHz and 799-805 MHz spectrum approved by the Federal Communications Commission, the Region 19 Regional Planning Committee will accept applications from eligible entities during two application windows per year. The applications windows are established as May 1 of each calendar year through October 31 of that same year, and November 1 of each calendar year through April 30 of the following year.



**Application procedures for Region 19 comprise of the following steps:**

1.. Entity Submits Application to Frequency Coordinator. The Frequency Coordinator reviews the application summary for accuracy and pre-coordination of frequencies and then forwards the application to the RPC Chairman. The Frequency Coordinator reviews current allotments and eligibility and resolves potential conflicts or issues.

2. Eligible Entity Submits Request for Channel Assignment. Eligible entity presents detailed application and request for channel assignment, in writing, to RPC. Proposals will be considered for State Frequencies, General Use Frequencies, or Interoperability Channels. Application is provided as an attachment.

Each application must, as a minimum, contain:

- Specific Frequency Details
- Justification – must show ALL intended system uses
- List of 6.25 KHz channels by number and frequency
- Channel Bandwidth - showing each grouping of 6.25 KHz channels (See New England 700MHz Regional Plan Region 19, Appendix L)
- Technical Parameters
- Channel Loading and Use
- Area of Operation Map Detail
- Specific System Design Details
- Existing Allocations of Frequencies in all bands
- Functional Block Diagram of proposed system
- Preliminary Coverage and Interference Analysis
- Frequency givebacks (if applicable)
- An Interference Prediction Map using latest version of TIA/EIA TSB88 Guidelines
- Details of Interference Predictions and Protection

Applications must be submitted with a cover letter on official agency/organization letter head and signed by the chief elected official of the municipality (if a town-wide system) or the head of the organization requesting the frequencies if it is a single agency application. Mail the completed applications in electronic media (20 Copies on CD or equivalent) and 3 paper copies to the committee Chairman.

Applications submitted without official signed cover letters will be rejected.

Each Applicant may also be required to:

- Present further details, or documentation, as requested by the RPC.
- Give formal presentation of application to the RPC.
- Be present, or have a representative present, during initial application review of the proposal and, if necessary, subsequent reviews by the Regional Planning Committee.

3. Planning Committee Reviews Proposal. The RPC begins review of application and proposal material.

4. RPC Resolves Proposal Conflicts or Errors and Recommends Frequency Channel Assignments. Intra-regional disputes resolved.

5. Regional Planning Committee Scores Application.

6. Regional Planning Committee reviews Frequency Coordinator Submission. The RPC reviews the application summary for accuracy and pre-coordination of frequencies and then notifies frequency coordinator of any issues or conflicts.

7. Frequency Coordinator Resolves Application Conflicts. The frequency coordinator reviews current allotments and eligibility and resolves potential conflicts or issues.

8. Coordination with Adjacent Regions and Countries:

The regions adjacent to Region 19 are:

- Region 8: Southern New York and New Jersey
- Region 30: Northern New York – Albany, except area of Southern New York (Region 8) and New York – Buffalo (Region 55).

Refer to New England 700MHz Regional Plan Region 19, Appendix E for listing of Region states and counties. See New England 700MHz Regional Plan Region 19, Appendix N for Inter-Regional Dispute Resolution Agreement.

Canada is adjacent to Region 19. Refer to New England 700MHz Regional Plan Region 19, Section 9 for coordination procedures.

9. Regional Planning Committee Notifies Applicant and Frequency Coordinator. The RPC will notify by letter mailed to the applicant and Frequency Coordinator to move forward with FCC licensing.

10. Coordinator Forwards Application to FCC.

The RPC performs database update.

11. FCC Issues License to Entity.

## Directions For Completing The Application, Application Follows the Directions

1. Although there may be a number of agencies that will use the system, the name of the licensee should be listed here. The balance of the line is for the agency's mailing address.
2. Identify spacing requirements between channels within the system
3. Enter the number of voice, data, broadband channels you believe you can justify. Starting with "A", list in consecutive letters those channels to be installed at each numbered site. Examples:

A single channel system with one primary site and one back-up site:

<u>Site</u>	<u>Channel</u>	<u>Bandwidth</u>
1	A	12.5KHz
2	A	12.5KHz

A three channel system at a single site:

<u>Site</u>	<u>Channel</u>	<u>Bandwidth</u>
1	A—B—C	12.5KHz
2	C—D—E	12.5KHz

A five channel system. Two channels at one site and a single channel at three additional sites.

<u>Site</u>	<u>Channel</u>	<u>Bandwidth</u>
1	A-B	12.5KHz
2	C	12.5KHz
3	D	12.5KHz
4	E	12.5KHz

4. Enter bandwidth for voice channels between 6.25KHz and 25KHz. The FCC has/will identify dates which will preclude use of 25KHz and possibly 12.5KHz. Narrowband channels for data use will be available between 12.5KHz and 25KHz.
5. Enter in degrees, minutes, and nearest second north. (NAD83)
6. Enter in degrees, minutes, and nearest second west. (NAD83)
7. Enter ground level in meters above mean sea level (AMSL)

8. Enter the transmitter output in Watts.
9. Enter effective radiated power (ERP) in Watts.
10. Enter the distance in meters from the ground to the top of the antenna.
11. Enter the gain of the antenna from the manufacturer's specification sheet.
12. Enter the angle in degrees that the antenna is tilted from the vertical plane. If none, enter 0.
13. If a non-directional antenna will be used, enter 360 degrees. If a directional antenna will be used, show the compass point, to the nearest degree, the direction of the main lobe.
14. Enter the manufacturer of the antenna and model#. Provide as an attachment the antenna(s) specification for each antenna listed. Also see section (29)
15. List all agencies/departments that will use the completed system. Identify the loading for each agency/department. For each user agency/department, indicate the number of each equipment type that will be used when the system is completed. The category for # laptops/data devices will be used to determine data and broadband requirements if not specifically specified in the application.
16. List all frequencies that will be returned.
17. List all frequencies in other bands that will be utilized with the 700MHz system.
18. List the intercommunication requirements of your dispatch center.