October 31, 2015
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Washington, DC 20554

Attention: Chief, Public Safety and Homeland Security Bureau

Subject: WTB Docket No. 02-378, Region 28 - 700 MHz Regional Plan
Amendment as Required by FCC 14-172

Dear Admiral Simpson:

Pursuant to the requirements of the Federal Communications Commission ("FCC") in FCC 14-172, Regional Planning Committee hereby submits necessary changes in the Region's 700 MHz Plan, previously approved by the FCC, to comply with the Report and Order. In accordance with 47 C.F.R. §90.527(b), the modifications have been coordinated with each of the adjoining Regional Planning Committees and their certifications are included in Appendix R of the Plan.

There are three main areas of change contained within this Plan. The first change is to allot those frequencies identified in 47 C.F.R. §90.531(b)(2), commonly known as the "reserve" channels, as required by FCC 14-172. The proposed allotments are identified in Appendix W. Region 28 will work to identify all reasonable spectrum requirements needed by any T-Band incumbents desiring 700 MHz frequencies.

Secondly, Region 28 has adopted the same interference criteria as Region 8 in order to harmonize the inter-regional coordination process.

Finally, the Plan contains certain ministerial updates and clarifications as requested by the membership or deletions of material based upon FCC 14-172; e.g. protection of television channels using the 700 MHz spectrum.

Respectfully submitted,

William Carrow
Chairman
Regional Planning Committee 28

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1.0 700 MHz Regional Plan for Regional Planning Committee 28

This document is the Plan for Regional Planning Committee 28 (Delaware, southern New Jersey, and Eastern Pennsylvania) describing how the General Use and other frequencies as defined in 47 CFR §90.531(b) for which Regional Planning Committees will be allocated and implemented in the Region. This section is provided in compliance with 47 CFR §90.527 (a)(1). Unless stated otherwise, any reference to "700 MHz" in this Plan means the 769-775 and 799-805 MHz narrowband voice frequencies established for public safety general use in 47 CFR 90.531(b)(6) and other subparts for which Regional Planning Committees have responsibility.

1.1 Region 28 – 700 MHz Planning Committee Administration

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1.2 RPC Membership

Membership in the Region 28 Regional Planning Committee is open to any interested party. Committee Officer Offices, voting procedures, and membership attendance requirements are listed in the Region 28 Planning Committee bylaws. The Region's membership information is contained in the Appendices to the Plan. Voting and operating procedures are described in the bylaws of this plan. Prior to the first meeting of the 700 MHz Committee, sixty (60) days of notice was provided to all interested parties and all sessions have been open to the public.

1.3 Plan Development and Regional Participation

Region 28 developed the 700 MHz Plan through extensive intra-regional participation as well as through coordination through its regional neighbors that had convened and made substantive progress in the development of their plans. To construct the Plan, the Regional Chair convened a Task Force composed primarily of the Technical Committee and its members as well as himself and the Region's Secretary. The Region consulted extensively with representatives of Regions 8 and 20 and adopted certain facets of their 700 MHz Plans as a strategy to ensure seamless operation along the Region's borders. As an example, the low-power channel deployment plan, as defined in 47 CFR §90.531(b)(3), developed and included in the Region 20 Plan was incorporated into the Region 28 Plan. This was adopted because there is an extensive interstate area of

common operation between the State of Maryland (Region 20) and the State of Delaware (Region 28).

The group responsible for Plan development conducted a series of meetings in which defined progress was made relative to specific sections of the Plan. Progress reports were assessed through conference calls and in-person meetings. The work of the group culminated with adoption of the Plan.

1.4 Composition and Role of Committees

A. Regulatory Committee

The Regulatory Committee is charged with the responsibility to:

1. Conduct annual reviews of the regulatory issues promulgated by the Commission and propose compliance revisions of the Region 28 Plan for 700 MHz.
2. File notices or comments with the Commission as required by the Region's By-laws.
3. Develop responses to any notices issued by the FCC impacting Regional Planning Committee 28.

B. Operations Committee

The Operations Committee is responsible for a variety of tasks including but not limited to:

1. Conduct annual reviews of the organizational and operational aspects of the Region 28 Plan for 700 MHz.
2. Organize, schedule, and facilitate requirements in support of Region 28 Meetings.

C. Technical Committee

The Technical Committee is charged with the responsibility to:

1. Conduct annual reviews of the technical matters impacting the Region 28 Plan for 700 MHz.
2. Review and take action on applications from within Region 28 for 769-775 and 799-805 MHz channels.
3. Review and take action on 700 MHz applications from adjacent Regional Planning Committees.

1.5 Major Elements of the Plan – from 47 CFR §90.527 (a)(2)

The major elements of the Plan are those required to conform to the requirements of the Commission as contained in 47 CFR §90 Subpart R. Each of the elements as contained in the rules of the Commission is specifically notated in this Plan to facilitate regulatory review. Internally, compliance with the Commission's requirements was assessed

utilizing the documentation provided by NPSTC as well as the former National Coordinating Committee formed following the 4th NPRM from Docket WT 96-86. Appendix K also depicts the Region's compliance with 47 CFR §90.527 (a)(2) by depicting the Plan "check-off" sheet provided by the NCC.

1.6 Opportunities for Participation in the Plan's Development - from 47 CFR §90.527 (a)(2)

Region 28 encouraged the participation of all Part 90 licensees and others with an interest in the development of a Plan for 700 MHz and other issues related thereto. The Region determined that there are no federally registered tribes of Native Americans within the States of Delaware, New Jersey, or the Commonwealth of Pennsylvania (please see http://www.indians.org/Resource/FedTribes99/Region6/region6.html).

Like other Regional Planning Committees, the pace of development for the 700 MHz Plan quickened following passage of the Deficit Reduction Act of 2005 and Title III, the Digital Television Transition and Public Safety Act. Prior to passage of the Act, two major television stations in Philadelphia broadcasting in the band prohibited the effective use of 700 MHz spectrum throughout Region 28. With an anticipated date for the cessation of broadcasting in this spectrum, public safety communications managers began a program to develop the 700 MHz Plan for Region 28.

In the Region's meeting[8] on May 22, 2007, active work on the Region 28 Plan was initiated. In this meeting, information on the strategies used in Regions 8 and 20 were presented as well as a PowerPoint presentation documenting the Commission's requirements for Plan development as provided in 47 CFR §90.527. Subsequently, specific Plan development tasks were assigned to members for review and action. A meeting was called for July 17, 2007 to refine further the provisions of the Plan. A notice of this meeting and an open call for participation was published by the Commission in the Daily Digest. Notices were also distributed through the Region's electronic mailing list.

In addition to the meetings in May and July, conference calls were held by specific Committees to resolve issues relative to the Plan. A draft of the Plan was provided to the membership for review thirty (30) days before a region-wide meeting permitting all members to digest the Plan and bring relevant comments and suggestions to the meeting in which it was adopted.

The Regional Plan was finalized by the Region following the release of the Second Report and Order to Docket WT 96-86 on August 10, 2007. The Plan was reviewed by the Technical Committee and revised to ensure compliance with actions of the Commission.

The minutes for meetings are contained in Appendix D.

8 Please see Meeting Notice DA07-1833 issued by the Commission on April 24, 2007

2.0 Region 28 Description

Region 28 includes the entire State of Delaware, the southern portion of the State of New Jersey, and the eastern portion of the Commonwealth of Pennsylvania. The Region is highly populated and includes one of America's largest cities, Philadelphia. The City of Philadelphia is noted for many historic sites, critical to documenting early American history and the development of our democratic form of government as well as an international airport, major port/transportation facilities, multiple major-league professional sports teams, and many other attributes that draw thousands of visitors to the multi-state metropolitan area each year.

In addition to the very populous Philadelphia area, which extends into portions of New Jersey as well as Delaware, major port, other critical infrastructure, and transportation facilities are found in all three states from which the Region is comprised. The hub of American commerce on the east coast extends between the New York City and Washington, D.C. areas. Region 28 resides in the middle of these critical areas and is a vital participant in international as well as domestic trade.

There are also major tourist areas along the shores of Delaware and New Jersey that also draw thousands of visitors each year. In addition, the Atlantic City complex in New Jersey is known around the world as a vacation center with "world class" entertainment opportunities within the casinos on the famous "Boardwalk" area.

Unfortunately, many of the attractions that draw people to the area encompassed as Region 28 also serve as potential targets of terrorism. From the U.S. Navy port facilities as well as major sporting venues in Philadelphia to transportation points throughout the area, terrorists have a host of strategic infrastructure and population targets from which to choose. Like our colleagues in Regions 8 and 20, as well as many other parts of the United States, many of the attributes that drive the economic engine of the area are potential targets requiring that first responders be ready to meet any challenge.

Thousands of first responders work within Region 28 and require public safety and homeland security communications systems to serve the citizens of and visitors to their communities. These dedicated persons are made up of professional full-time law enforcement, fire, and emergency medical services personnel to volunteers serving their communities without monetary compensation. Regardless of full-time or volunteer status, all of these first responders share a requirement within their areas of operation for reliable public safety communications systems that provide daily as well as interoperable communications.

2.1 Notification Process

Because of the Region's close coordination with the adjacent (convened) Regional Planning Committees, all of the adjacent Chairs were familiar with the work of Region 28 to develop the 700 MHz Plan. In addition, Region 28 has reviewed and approved the Plans of Regions 8, 20, 30, and 55. The Chairman of Region 28 has continued to keep

the Chairpersons of the adjoining convener regions up-to-date with progress relative to the development of the 700 MHz Plan.

All meetings were published in the Commission's Daily Digest as well as Regional email lists from the 800 MHz planning process.

2.2 Future Meetings

Region 28 will hold no less than annual meetings to update the 700 MHz Plan. During the period following the Commission's approval of the Region 28 Plan, it is anticipated that meetings will be held with greater frequency as initial actions are taken relative to actions on applications for channel allotments.

There shall be no less than thirty (30) days of notice provided prior to a meeting with the sufficiency of notice measured by the posting of the meeting's information in the Daily Digest of the Commission.

2.3 Operations of the Region

Region 28 employs Robert's Rules of Order to conduct meetings. Voting member considerations are listed in the Region 28 By-Laws. The meetings are open to all interested persons and public input time can be provided for anyone to express a viewpoint or to have input to the Regional Planning process.

A minimum of one (1) full committee meeting will be held every twelve months. The Region 28 Chairperson has the authority to call an additional meeting at a time when he/she deems necessary or when he/she deems it in the best interest of the Region to convene. For the convenience of Region 28 members, attempts will be made to coordinate 700 MHz meetings with Region 28 800 MHz meetings.

As provided in the bylaws, the Chairperson shall call a meeting of the Regional Planning Committee to elect a Chair, Vice Chair and Secretary to serve for a two-year term.

A chronological list of meetings, summary of minutes, meeting announcements and agendas outlining Region 28 progress in 700 MHz development is located in Appendix D of this document.

2.4 Overview of public safety entities within the Region (state agencies, federal agencies, etc.)

Region 28 supports a wide variety of federal, state, and local first responders and related governmental and non-governmental resources. Included within the Region are a wide variety of state law enforcement agencies requiring statewide radio system support. These systems may also provide interoperability for federal or local government law enforcement agencies.

The Region also supports local law enforcement agencies that may range in size from

small police and sheriff's departments to large county or city police departments. There are also many local law enforcement entities within the Region providing support for authorities, higher education, and other specialized areas of criminal justice and public safety.

One will also find a wide variety of fire and emergency medical resources within the Region ranging from municipal fire departments to volunteer fire and rescue organizations.

Emergency medical services may be provided by municipal or volunteer fire departments as well as volunteer rescue squads and commercial ambulance services.

2.5 Solicitation of Comments and Process Used to Consider Plan Comments

Input from affected public safety communications' professionals has been an important part of Plan development. The process began by convening the Region and soliciting comments from throughout the membership. The process continued by continually placing "in-progress" drafts of the Plan on the Region 28 web site with a request for comments followed by discussion of comments from within the Plan development process.

As progress drafts of the Regional Plan were developed, updated versions were also uploaded to CAPRAD for review by others.

Following adoption of the Plan by the membership of Region 28, drafts were shared with all of the adjoining convened Regional Planning Committees with a request for comments and concurrence. In addition, a draft copy was forwarded to the Convener for Region 36. To the extent that comments were received from any source, appropriate changes were made in the Plan prior to submission to the Commission.

3.0 Regional Plan Administration and Frequency Coordination

3.1 General Description of Spectrum Allotment – from 47 CFR §90.527 (a)(3)

A. Region 28 believes that it has two principle responsibilities to the members and adjacent regions. First, the Regional Plan is predicated upon an attempt to provide as much spectrum to an applicant as the facts and circumstances of the application support. To this end, the Region will consider in totality the current spectral resources of the applicant as well as other potential requirements of other licensees within the applicant's area of operation.

The review will also consider the issue of spectrum (in any band) to be returned by the applicant, if any, and the funding available to implement a system. All of these steps are under-taken to ensure that the Region carefully manages and becomes a good steward of the spectrum for which it is responsible. To the greatest extent possible, the Region desires to demonstrate to both applicants and potential applicants the highest levels of reasonableness in the management of spectral resources for which it is responsible.

Notwithstanding the above, the Region is also cognizant that there is a finite amount of 700 MHz spectrum and a potentially large number of applicants. To that end, Region 28 has replicated much of the comprehensive channel allotment plan developed by Region 8. This channel-allotment strategy was predicated upon the reality of limited spectrum providing support in one of the most populous regions in the United States. Region 28 replicated the strategy because it was carefully and thoughtfully crafted by the members of Region 8. Like Region 8, Region 28 also serves a highly congested area of population with many public safety agencies formed to serve the citizenry.

To ensure that channels have been allocated appropriately with respect to geographical areas within Region 28, will utilize CAPRAD as the fundamental basis to make initial channel assignments to an eligible user within a geographic area. The Region recognizes and interprets the Commission's rules to permit the assignments of channels geographically and as an example, not to specific political entities such as a county government, but to any eligible user within a county. To illustrate further, if a CAPRAD assignment is to (hypothetical) Smith County, any eligible user within Smith County may apply for use of the channel as may be consistent with 47 CFR §90 Subpart R.

To ensure that channels have been allocated appropriately with respect to geographical areas within Region 28, the CAPRAD table of assignments will be utilized as a baseline from which assignments are initiated. Region 28 may reassign from the CAPRAD sort of channels a limited number of assignments provided that there is no harmful interference rendered to any other licensee in Region 28 or to a geographic area within an adjoining Regional Planning Committee's area of

responsibility to which the channel has been assigned by CAPRAD and incorporated into that Region's Plan for 700 MHz.

If an eligible user in Region 28 requires more channels than are available within CAPRAD and the facts and circumstances of the user's request justify the channels, the Region will endeavor to meet the applicant's requirements provided that the applicant provides documentation to support the need for additional channels. The documentation shall be provided at the expense of the applicant and may include "Grade of Service" studies, proposed channel loading data, fleet maps, and other documents demonstrating the need for additional channels.

The original PSR28 700 MHz plan stated, "The term for frequency-pool allotments in Region 28 shall be three (3) years after the transition date to digital television." (June 12, 2009)

Since the three-year period since the Digital TV transition deadline has elapsed, the frequency-pool allotments do not need to remain fixed. Region 28 recommends to applicants that requests for spectrum allotments be made using the following prioritization:

1.) CAPRAD Allotments
2.) Orphan Channels protecting existing CAPRAD allotments and FCC Allocations / Assignments
3.) Out-of-Pool Channels protecting existing CAPRAD allotments and FCC Allocations / Assignments
4.) Former Reserve(d) Channels Reserved for T-Band replacement, See Appendix P.
5.) Out-of-Pool Channels that impact CAPRAD allotments to the least amount possible while still protecting FCC Allocations / Assignments according to the Plan's prescribed interference criteria.

As part of its review of an applicant's request, in addition to considering the potential impact upon other eligible users within a geographic area, the Technical Committee will also review the application to ensure that, if approved, the document does not negatively impact other eligible applicants within or adjacent to the Region. However, after the Region 28 Plan has been approved for a period of three years, no active application will be rejected solely due to interference that may be caused to geographic allotments in areas where there is no active intent to pursue licensing in the 700 MHz band. Secondly, the Region must protect adjacent and co-channel users in other regions from harmful interference as defined in the applicable rules of the Commission.

Upon FCC approval of this Plan, Region 28 will announce to the region that the initial window of 700 MHz public safety spectrum is available in the Region and that channels will be initially assigned on a geographical basis within phases, also known as "windows". All available methods will be used to notify public safety entities of channel availability in the Region (see Section 2.1).

For the initial allotment of channels, Region 28 proposes a modified set of National

Coordination Committee (NCC) Pre-Assignment Rules and Recommendations listed in Appendix F to the extent appropriate. However and when in the public interest, the Region may modify the means of channel allotment in order to provide eligible licensees with the number of channels required to implement land mobile radio systems in the frequencies for which this Plan is responsible.

B. Notwithstanding the provisions of paragraph A, when in the opinion of any officer of Region 28 that it is in the public interest, applications for channels will be received and processed in compliance with the other provisions of this Plan.

C. Applications for channels in Region 28 shall be submitted to the Chair of the Technical Committee. The Technical Committee chair shall be responsible to comply with the provisions of 47 CFR §90.176 (c)–(h) relative to the notification of the adjacent region of applications for channels as well as compliance with the provisions of 47 CFR §90 Subpart R.

D. In order to maintain accurate records in the CAPRAD database, applicants will provide Region 28 with physical copies of their application along with associated documentation for adjacent Regional Planning Committee review. Upon approval of an application and if the applicant has not done so, the Technical Committee will enter the FCC 601 form into the CAPRAD database before the application is forwarded to the FCC certified coordinators.

E. Pursuant to Title 6013 of the Middle Class Tax Payers Relief Act of 2012, the T-Band (470-512 MHz) will be phased out in 2021. Per FCC 14-172, incumbents of that band will receive priority in the assignment of the former reserve channels identified in 47 C.F.R. §90.531(b)(2)(i) during each filing window depicted in Section 8.1 of this Plan.

3.2 Application Requirements

Each application package must contain enough information that evaluators can determine the strength of the application relative to its competing peer applications, as well as its technical validity. The RPC supports the NCC pre-assignment rules and recommendations. Applicants should review these recommendations prior to preparing applications for submission.

3.2.1 Application Content Summary

A complete application package must include the following items and all applications shall be submitted through the CAPRAD.org website:

A. Completed FCC 601 form(s)
B. A summary of the spectrum request and overall project description, which includes a system description, specific channels requested, number of sites and service area.
C. Completed supplemental application requirements including;

a. Manufacturer and model of transmitting antenna
b. Degrees of electrical downtilt
c. Orientation of the antenna, if other than omni-directional
d. Degrees of Mechanical downtilt applied to the antenna mounting
e. Description of applicants service area
f. A map depicting the requested service area
g. A written description of the service area
h. Justification of any extension of the service area beyond the jurisdictional limits of the applicant
i. A Technical Data Import spreadsheet, in the format of "dot csv" file, with the details of each site and channel. A of a sample of the Technical Data Import spreadsheet can be obtained from the Region 28 Technical Subcommittee.

D. Signed Memorandum of Understanding (MOU) agreeing to implement system as proposed; conditioned on relinquishing any FCC license upon default of system construction

E. Coverage and interference-prediction plots that are calculated by methods described in TIA TSB-88C (or a subsequent later version), using Longley Rice propagation modeling, relative to maritime temperate environment. The modeling is to be based on a 3 arc second terrain data, or better. The diffraction portion of the modeling, where it can serve to artificially limit the size of the propagation plot, must be disabled. The Region 28 Committee will provide reference propagation plot based upon specific listed technical parameters. (see APPENDIX N) Applicants will replicate this reference propagation with their specific analysis software to illustrate that generally equivalent results are obtained.

3.2.2 Application Submission Format

All material provided as part of the application package must be submitted electronic format via the CAPRAD website. Further one (1) hard copy and one (1) electronic copy[9] shall be send to the Technical Committee Chairperson.

3.2.3 Grounds for Dismissal of Application

At the discretion of the Technical Committee, applicants may be afforded the opportunity to provide any essential missing application information so applications can continue to undergo the evaluation process. The Chair of the Technical Committee shall notify the applicant via written or electronic mail if the application package does not meet the requirements stated in this Plan. Applications may be dismissed and returned to the applicant if the required information is not provided. The applicant will then have the option to complete and resubmit the application during the next filing-window period.

3.2.4 Appeal of Dismissal

Normally the actions of the Technical Committee, with respect to the dismissal of an application for channels, shall be considered final in accordance with Section 3.2.3 of this Plan. However, upon action of the applicant or at the request of any officer of the Regional Planning Committee, the Chairperson, or Vice-Chairperson, acting in the

absence of the Chairperson, may intervene and consider the merits of such application de

[9] Unless otherwise specified, the acceptable electronic media will be CD-ROM, DVD-ROM or USB "thumb" drive. Other media may be accepted upon written approval of the Chairperson of the Technical Committee.

novo. If in the opinion of the Chairperson, or the Vice-Chairperson acting in the absence of the Chairperson, that such condition exists as to merit a processing of the application, the Technical Committee shall continue to process the application provided that the applicant brings forward any documentation required, as may be necessary, to conduct an appropriate evaluation of the application.

3.3 Application Scoring Matrix

Implementing an evaluation matrix enables assigning each application a score that is the total number of the points awarded in seven categories. A maximum total score of 1000 points can be awarded, based on the Application Review Flowchart replicated in Figures 1 through 8. This flowchart details the sequence of events followed to determine an applicant's score and is discussed in the paragraphs that follow. Its symbols are defined in Appendix L.

First, the allotment is placed in the frequency pool (Block #1 in Figure 1). If frequencies are available in the pool (a second iteration of the evaluation matrix could occur if all frequencies are not allocated in the first iteration), a window-opening announcement is made (Block #2 in Figure 1). The window period will be thirty days (Block #3). Next, the Region 28 Technical Subcommittee reviews the received applications for completeness (Block #4). After the thirty (30) days have passed, the window closes (Block #5). Late or incomplete applications are rejected (Block #6). Applications received during the open-window period are reviewed (Block #7) by the Region 28 Technical Subcommittee.

The Technical Subcommittee will consult with State communications-planning administrators, if any such positions are staffed and the State requests this action, to determine if the application complies with State plans (Block #8). An application that does not comply with an existing State plan may be rejected at this point (Block #9) and returned to the applicant, along with an explanation of the reason(s) for rejection.

Prior to allocating points for the seven categories, the evaluators conduct a needs-assessment review (Block #10) of the statement of needs for the requested frequencies provided by the applicant. This statement of need serves as an overview of the proposed system. When an application has passed the test of the optional State plan compliance, the Technical Subcommittee will apply the evaluation matrix (as shown in Block #11).
The seven categories of point awards are addressed in the seven subsections that follow.

3.3.1 Service (Category I, Block #12) - 350-point Maximum

Each of the eligible services has a predetermined point value as seen in Table 1, which follows Figures 1 and 2. The point value assigned in this category is a factor of the number of subscriber units per service category, operating in a multi-agency system. An applicant with multiple services will be scored on a basis of the percentage that each service comprises of its total system. For example, a system that is 50% police and 50% local government (school administration) would be awarded the total of 50% of the point value for police plus 50% of the point value for school administration. Please refer to

Table 1 - Evaluation Matrix Point Values for Service.

Figure 1- Application Review Flowchart – Page 1 of 8

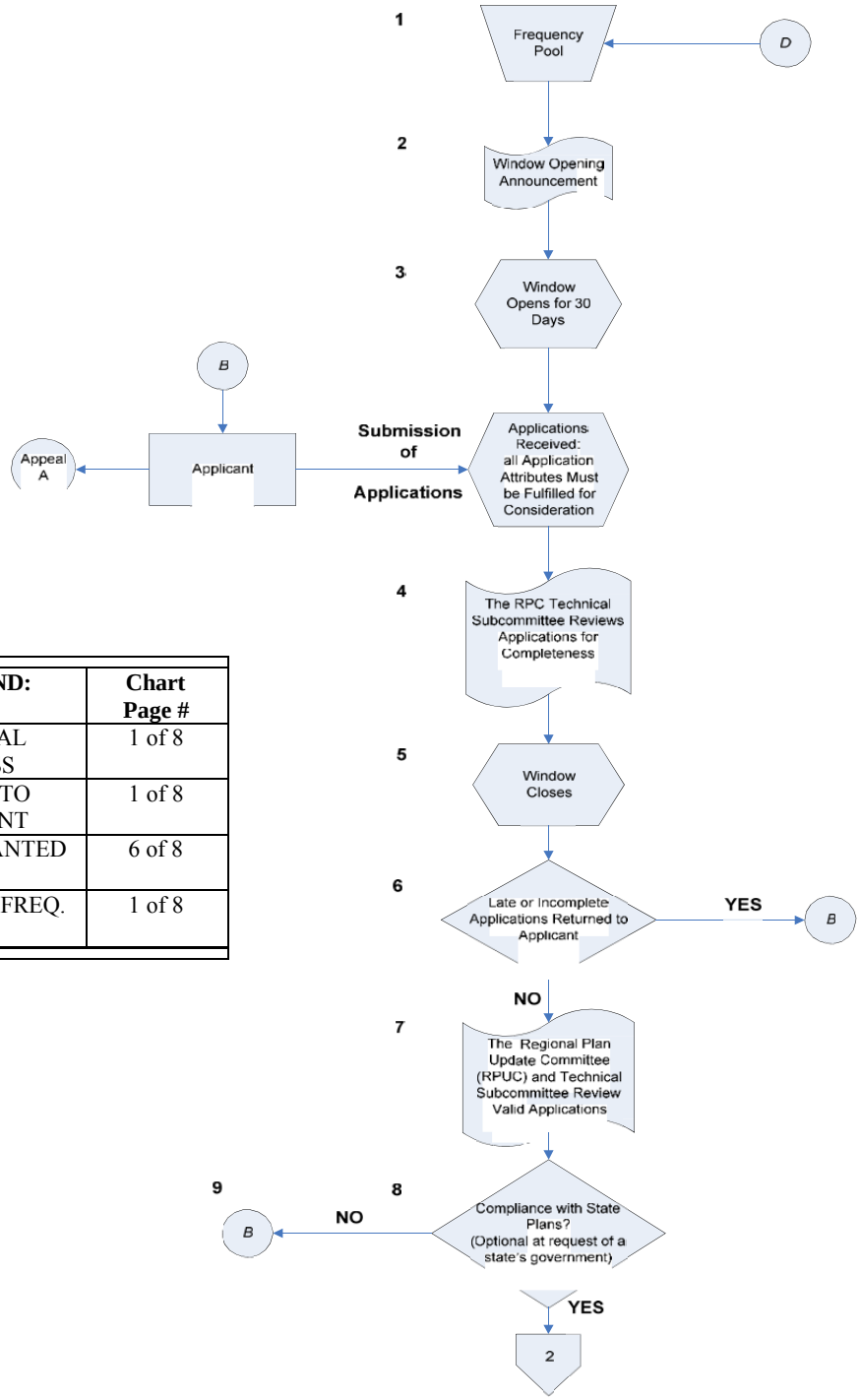


CHART LEGEND:		Chart Page #
A =	TO APPEAL PROCESS	1 of 8
B =	RETURN TO APPLICANT	1 of 8
C =	APPEAL GRANTED	6 of 8
D =	RETURN TO FREQ. POOL	1 of 8

Figure 2 - Application Review Flowchart - Page 2 of 8

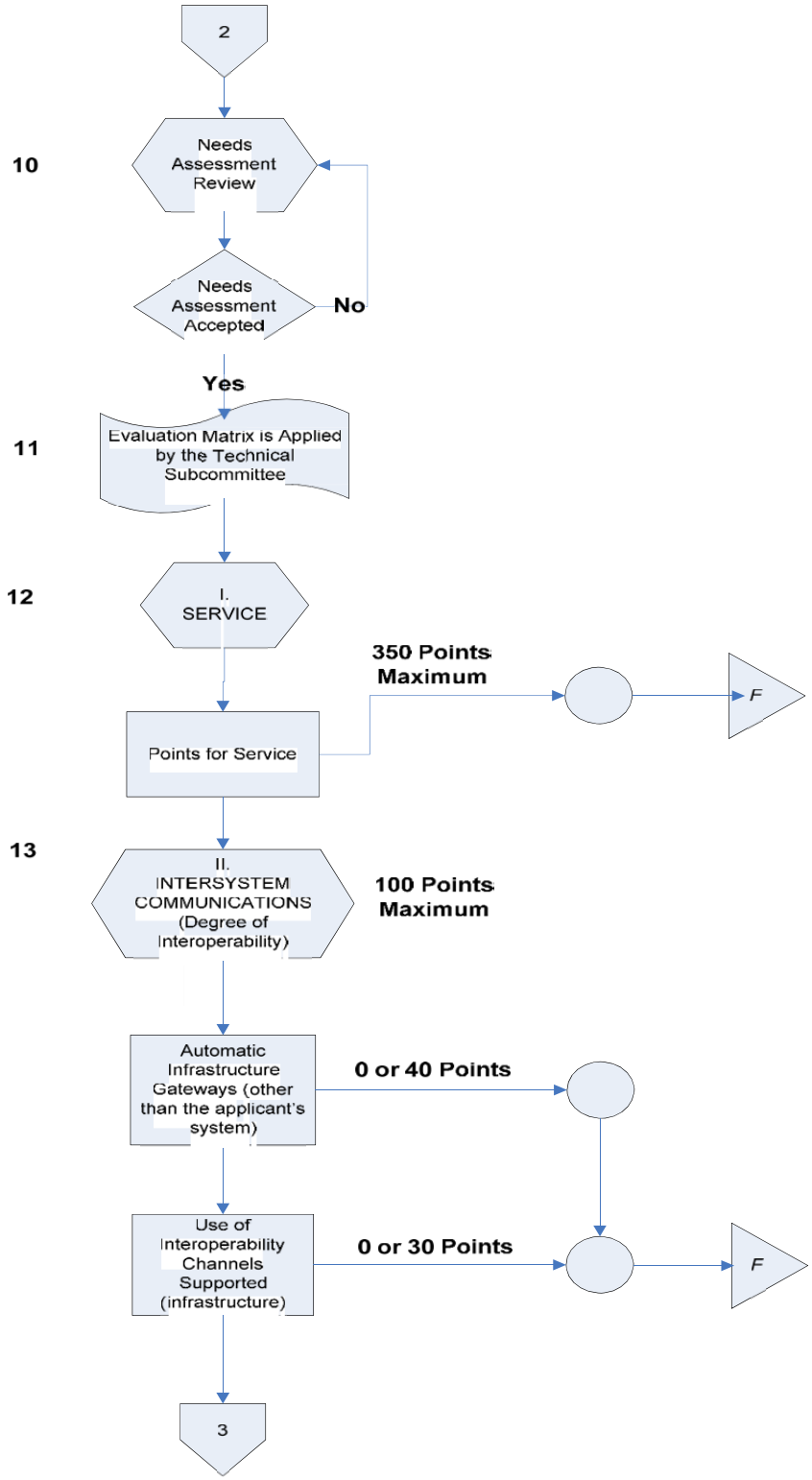


Table 1 - Evaluation Matrix Point Values for Service

Tier	Service Categories	Maximum Point Value
1	Fire	350
	Police	350
	EMS	350
	Rescue	350
2	Emergency Management	250
	Corrections	250
	Courts	250
	High-Volume Transit Systems (Serving > 500,000 passengers per day)	250
3	Beach Patrol (Special Emergency)	225
	Hospital (SE)	225
	Forest Fire (Special Emergency)	225
4	Transit Systems (Serving ≤ 500,000 passengers per day - exclusive of police, fire, and EMS)	175
5	Highway	150
6	Communications Standby Facilities (Special Emergency, SE)	125
	Maintenance & Utility Boards - Government (Special Emergency - i.e., water, sewer, gas, electric)	125
	Other Government Agencies (e.g., building inspectors, elderly services)	125
	Disaster Relief Organizations (Special Emergency)	125
	Auxiliary Police (Special Emergency)	125
7	Security Patrol - Government (Special Emergency)	100
	Schools - Government, Districts - (Special Emergency - i.e., school buses)	100
	Veterinarians - Government (Special Emergency)	100
8	Partial Coach - Government (Special Emergency - transit systems)	75
	Physicians - Government (Special Emergency)	75
	Communications System Repair (Special Emergency)	75
9	Parks and Conservation – Government (exclusive of police, forest fire)	50
	Physically Disabled - Government (Special Emergency - i.e., personal alarm services)	50
10	Other (TBD)	25

3.3.2 Intersystem Communications (Category II, Block #13) - 100-point Maximum

The application (Block 13 in Figure 2) is scored — with a range of points from 0 to 100 — based on the degree of interoperability that is demonstrated. This category rates the application on the interoperability capabilities of the proposed system, the inclusion of the common interoperability channels, and the ability to communicate with different levels of government and services during times of emergency. Points are awarded based on the criteria weights in Table 2.

Table 2 - Intersystem Communications Criteria and Weights

Interoperability Demonstrated	Point Value
Provides automatic infrastructure gateways (other than the applicant's system)	40
Use of interoperability channels is supported (infrastructure)	30
Provides console patches to other systems (other than the applicant's system)	10
Communicates with other systems with which the Agency holds mutual-aid agreements	10
All subscriber units have the tactical interoperability channels programmed within them	10
No interoperability or intersystem criteria information is provided	0

3.3.3 Loading (Category III, Block #14) - 150-point Maximum

As shown with Block #14 in Figure 3, applicants are scored on the number of subscriber units that will operate on each radio channel (the loading). The applicant shall receive a maximum score of 150 points in this category. For example, a proposed system that 1) has loading greater than or equal to 125 subscriber units, and 2) is an expansion of an existing 700 MHz and/or an 800 MHz system shall be awarded 150 points (sum of first and third lines in Table 3).

Table 3 - Loading Criteria and Weights

Loading and Expansion Factors	Point Value
System loading is ≥ 125 subscriber units per radio channel	100
System loading is ≥ 100 subscriber units per radio channel	50
Expansion of an existing 700 MHz and/or 800 MHz radio system	50
System loading is ≥ 50 subscriber units per radio channel	10

3.3.4 Spectrum Efficient Technology (Category IV, Block #15) - 100-point Maximum

Category IV (Block #15 in Figure 4) scores the applicant on the degree of spectrum-efficient technology the system demonstrates. A point-value range of 0 to 150 points can be awarded for this category. A trunked system, an integrated voice and data system, and a system utilizing 6.25-kHz spectral efficiency are all considered to utilize spectrum-efficient technologies. The spectral efficiency for a voice or data channel is based on the throughput divided by the channel bandwidth. Applicants shall be awarded a maximum of 100 points in this scoring category as per Table 4.

Table 4 - Voice and Narrowband Data Technology Criteria and Weights

Technology Utilized	Point Value
Trunked system design	50
6.25-kHz effective spectral efficiency	50

Figure 3 - Application Review Flowchart - Page 3 of 8

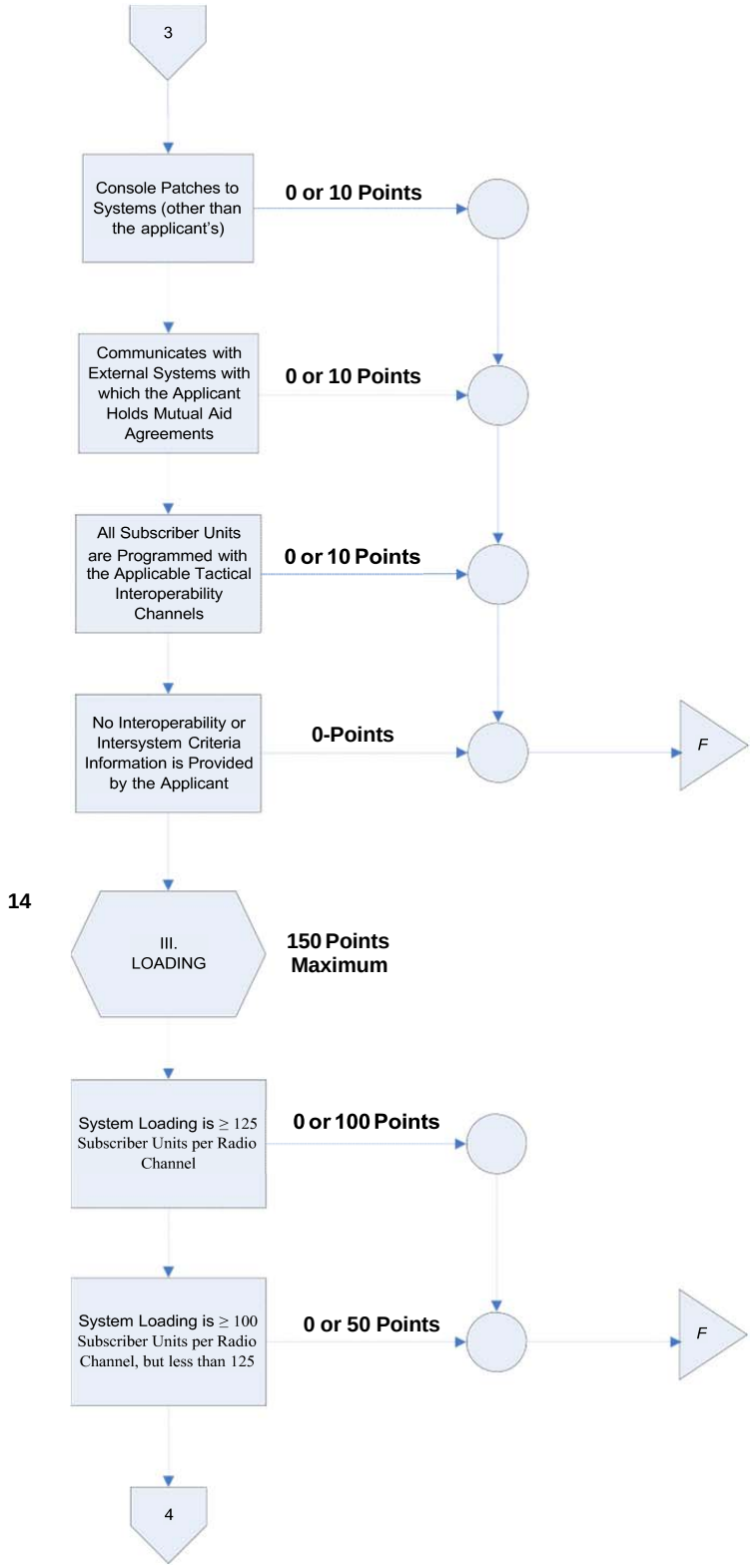
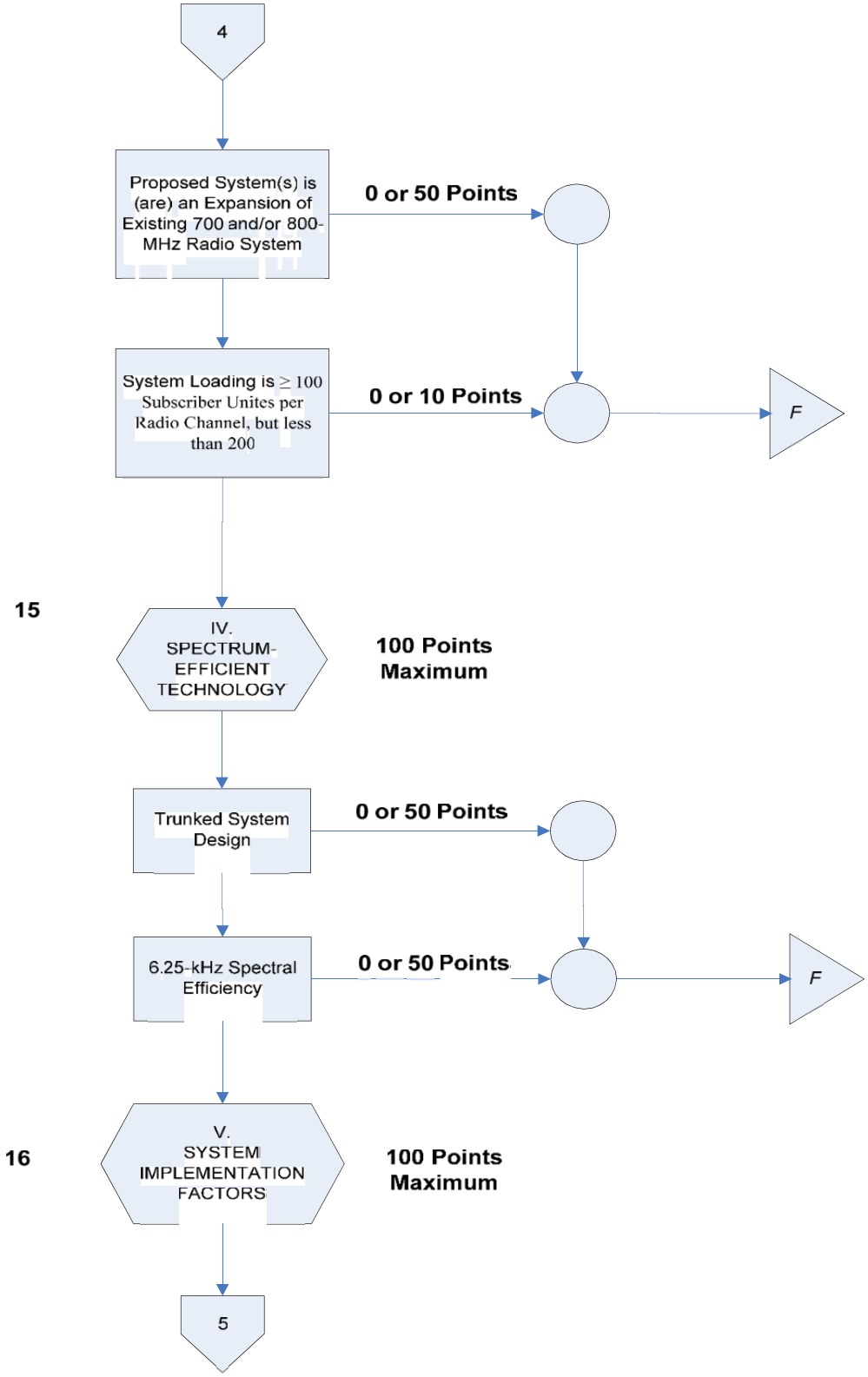


Figure 4 - Application Review Flowchart - Page 4 of 8



3.3.5 System Implementation Factors (Category V, Block #16) - 100-point Maximum

Category V (Block #16, Figure 4) scores the applicant on two factors — budgetary commitment and planning completeness. The degree of budgetary commitment is scored on a range of 0 to 50 points (first line in Table 5). An applicant that demonstrates a high degree of commitment in funding the proposed system will receive a higher score. Each applicant will also be scored on the degree of planning completeness, with a scoring range of from 0 to 50 points (second line in Table 6). Applicants are required to submit evidence of financial and budgetary commitment and a timetable for implementing the communications system or systems.

Table 5 - Planning for Implementation Criteria and Weights

Implementation Status	Point Value
Degree of budgetary commitment	50
Degree of planning completeness	50

3.3.6 Geographical Efficiency (Category VI, Block #17) - 100-point Maximum

Category VI (Block #17 in Figure 5) scores applicants on the level of geographic efficiency. Scoring in this category is based upon two subcategories: the ratio of subscriber units to area covered, and the channel reuse factor. The ratio of subscriber units to area covered measures the level of efficient coverage that a system demonstrates. The higher the ratio (subscriber units divided by square miles of coverage), the more efficient the use of the frequencies. For each application filing window, the ratio of the number of subscriber units to jurisdictional area covered shall be normalized to a maximum of fifty (50) points (as per the first line in Table 6). This will be done by applying the Normalization Equation that follows Table 6.

The channel reuse factor is defined as the number of times a channel is reused divided by the jurisdictional area covered. For each application filing window, as per the second line in Table 6, the channel reuse shall also be normalized to fifty (50) points. This will be done by applying the Normalization Equation that follows Table 6.

Table 6 - Geographic Efficiency Criteria and Weights

Geographic Efficiency	Point Value
Ratio of subscriber units to the jurisdictional area covered	50
Level of channel reuse throughout the jurisdictional area covered	50

Normalization Equation

A = Minimum point score = 0; B = Maximum point score = 50; x = Raw score;

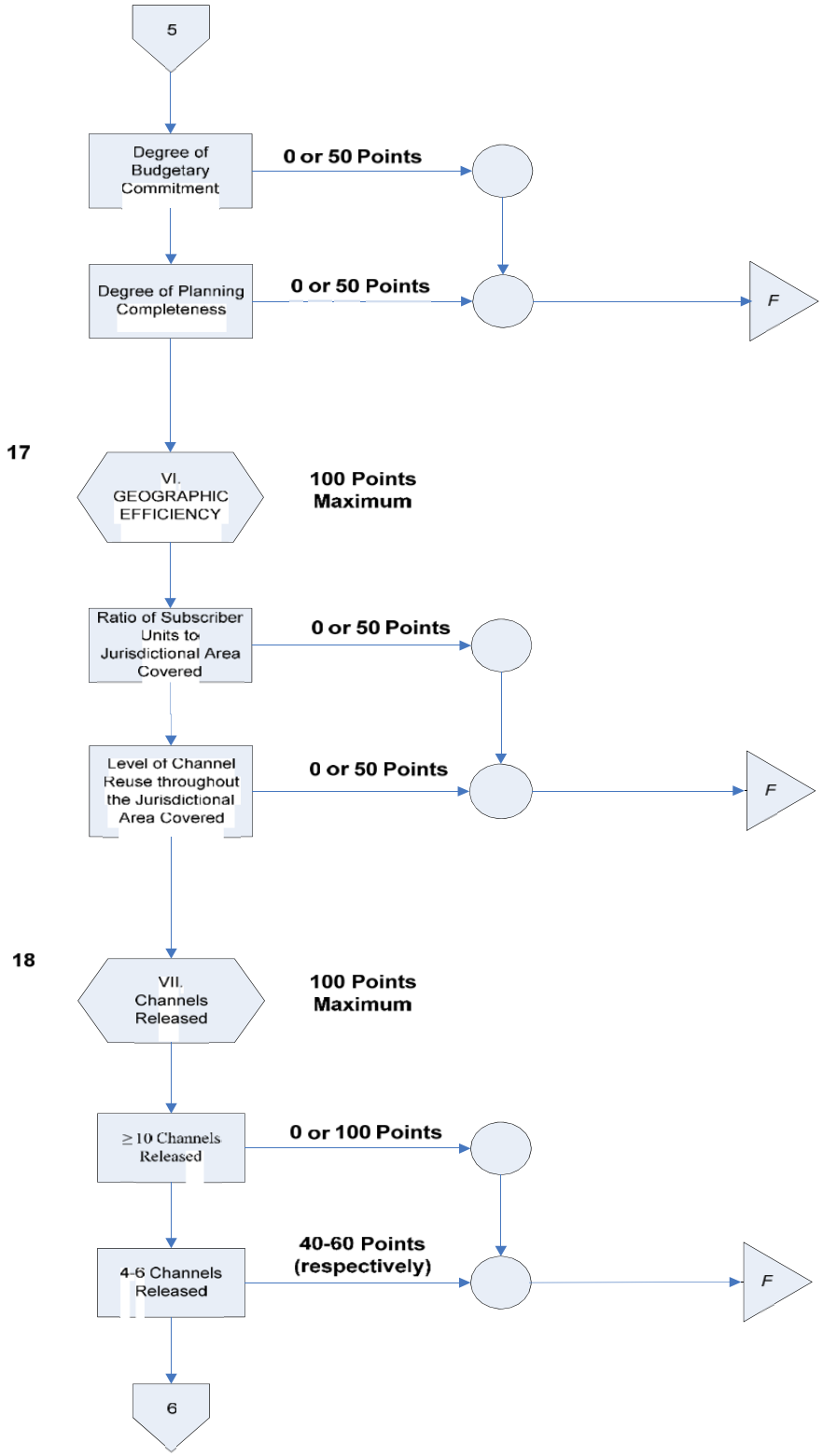
Max(x) = Maximum raw score in the application filing window

Min(x) = Minimum raw score in the application filing window

Normalized score (x) = A + [(B-A)/(Max(x)-Min(x))] . [x-Min(x)]

Equation for normalization = 0 + [(50-0)/(Max(x)-Min(x))] . [x-Min(x)]

Figure 5 - Application Review Flowchart - Page 5 of 8



3.3.7 Channels Released (Block #18) - 100-point Maximum

Category VII (Block #18 in Figure 5) evaluates the applicant on the number of radio channels released if the 700 MHz application is granted to it. As demonstrated in Table 8, the greater the number of channels released, the higher the score that applicant shall be awarded.

The usability of the released radio channels will also be considered in the form of a multiplier ranging from 0.0 to 1.0. Radio channels with greater usability potential will earn the applicant higher points. The FCC-certified frequency coordinators or their representatives shall be responsible for evaluating the usability of any channel(s) released.

Table 7 - Channel Criteria and Weights

Number and Usability	Point Value
Ten (10) or more channels given back	100
Four (4) to six (6) channels given back	40-60
One (1) to three (3) channels given back	10-30
Usability of the channels by others (i.e., levels of interference, Intermodulation, etc.)	0 - 1 (multiplier)

3.3.8 Final Processing Steps

As shown in Block #19 in Figure 6, points are totaled for each application.
Next, as per Block #20, the applicant's current frequency holdings (if any) are reviewed by the Committee. Then, as per Block #21, the approved application scores are reviewed by the Committee to determine the proper application prioritization order.

Next, the frequency pool is allotted (Block #22 in Figure 7), and interregional concurrence occurs as necessary (Block #23, also in Figure 7). The Plan is then sent to the FCC for review and approval (Block #24). Upon acceptance by the FCC (Block #25), the RPC notifies (Block #26) the applicant of its channel allotment(s). The applicant shall file the station license(s) with its preferred frequency coordinator (Block #27), who coordinates with the FCC (Block #28).

Simultaneously, the applicant shall send a copy of its application to the RPC. Upon confirming that the application for license matches the application for channel allotment, the RPC shall submit a Regional Plan Control Number to the coordinator, and the Regional Plan, RPC, and CAPRAD databases are updated. Finally, the FCC grants the license(s) to the successful applicant (Block #29 in Figure 7).

Figure 6 - Application Review Flowchart - Page 6 of 8

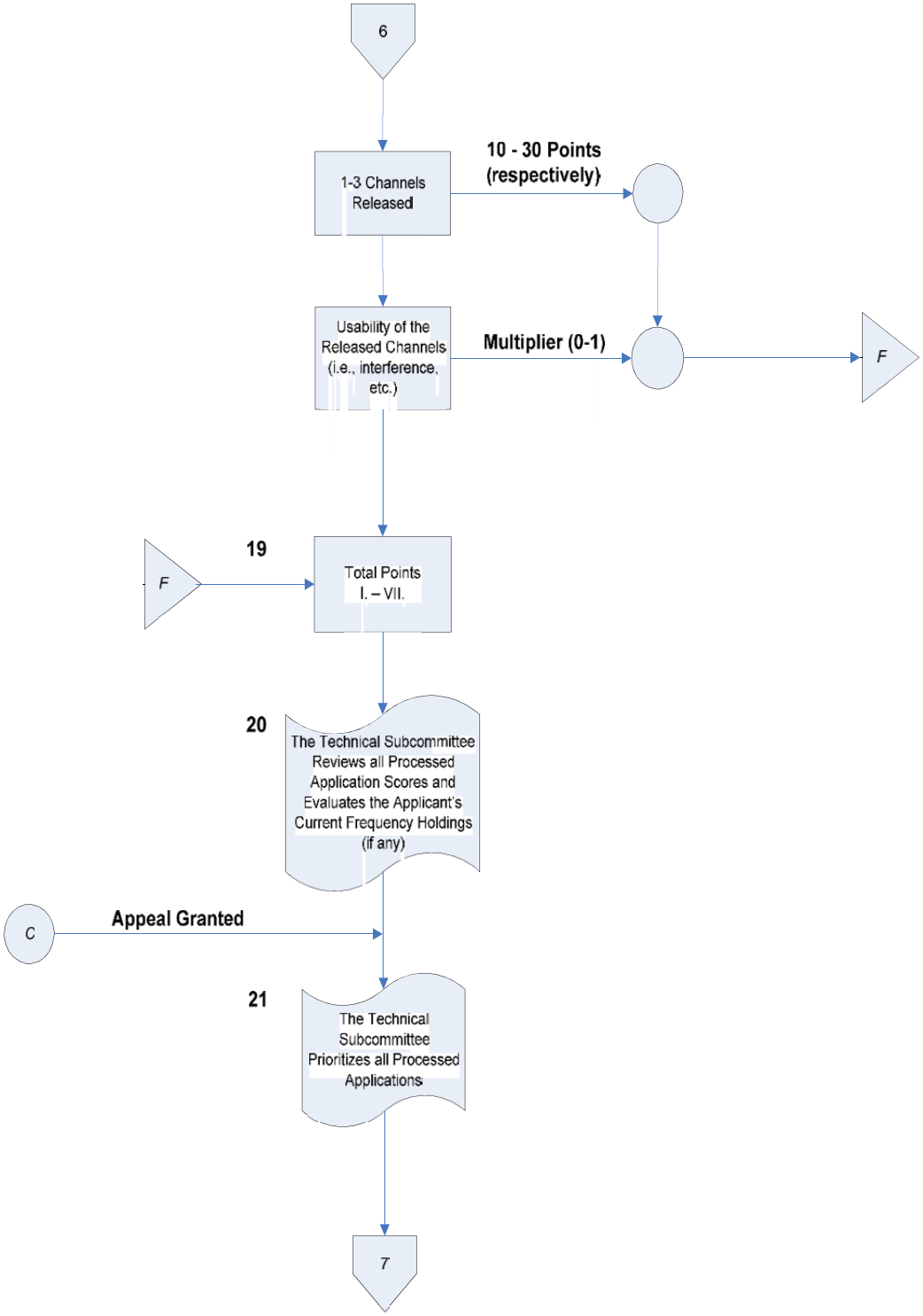
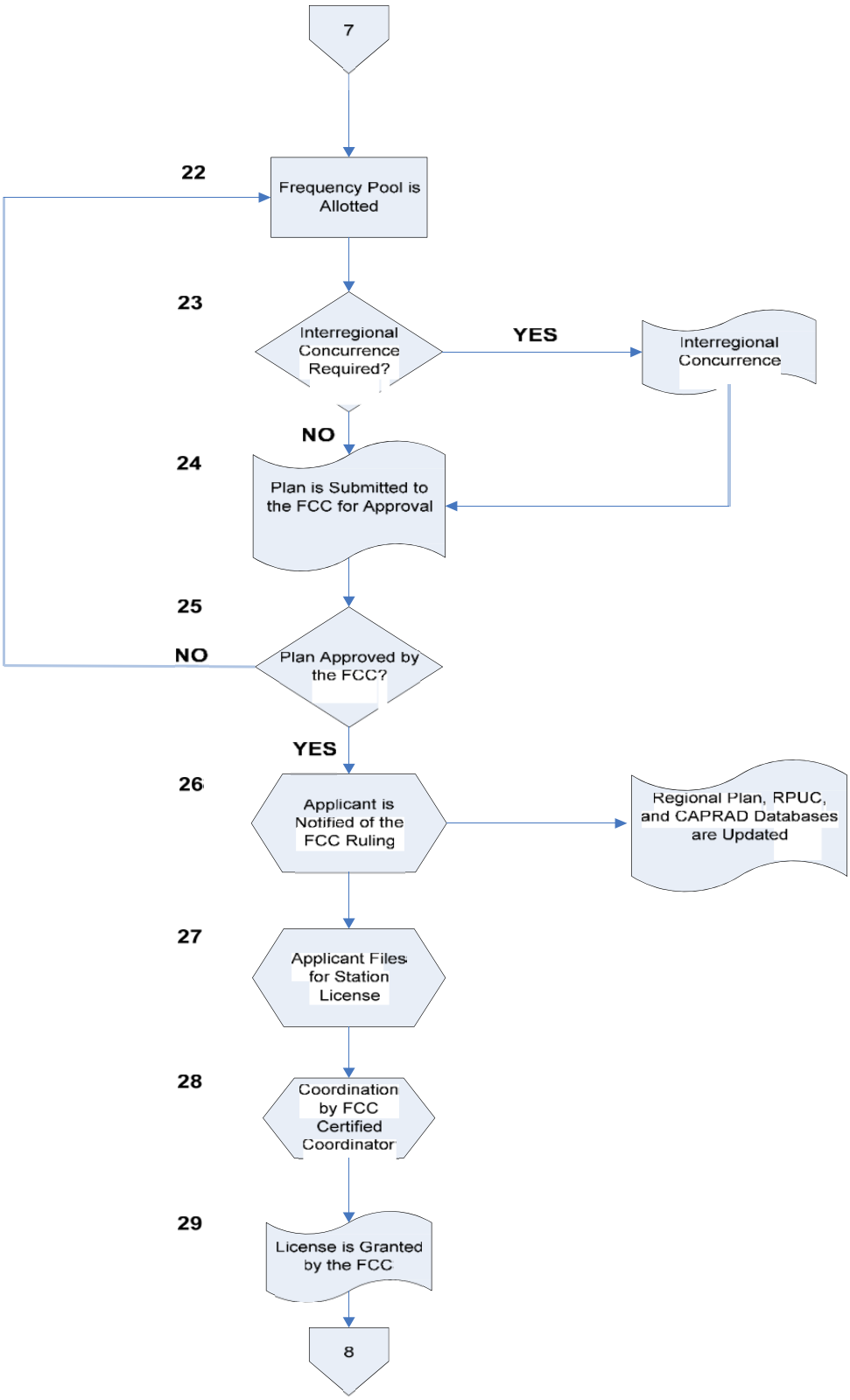


Figure 7 - Application Review Flowchart - Page 7 of 8



3.3.9 Follow-up after Initial Approval

The FCC allows the applicant/licensee up to five (5) years to implement the system. Should system implementation not begin (by, at minimum, an award of contract) within a two-year period, or if the projected channel loading is not attained in accordance with the slow-growth plan, the Region will petition the FCC to have the channels returned for re-allotment.

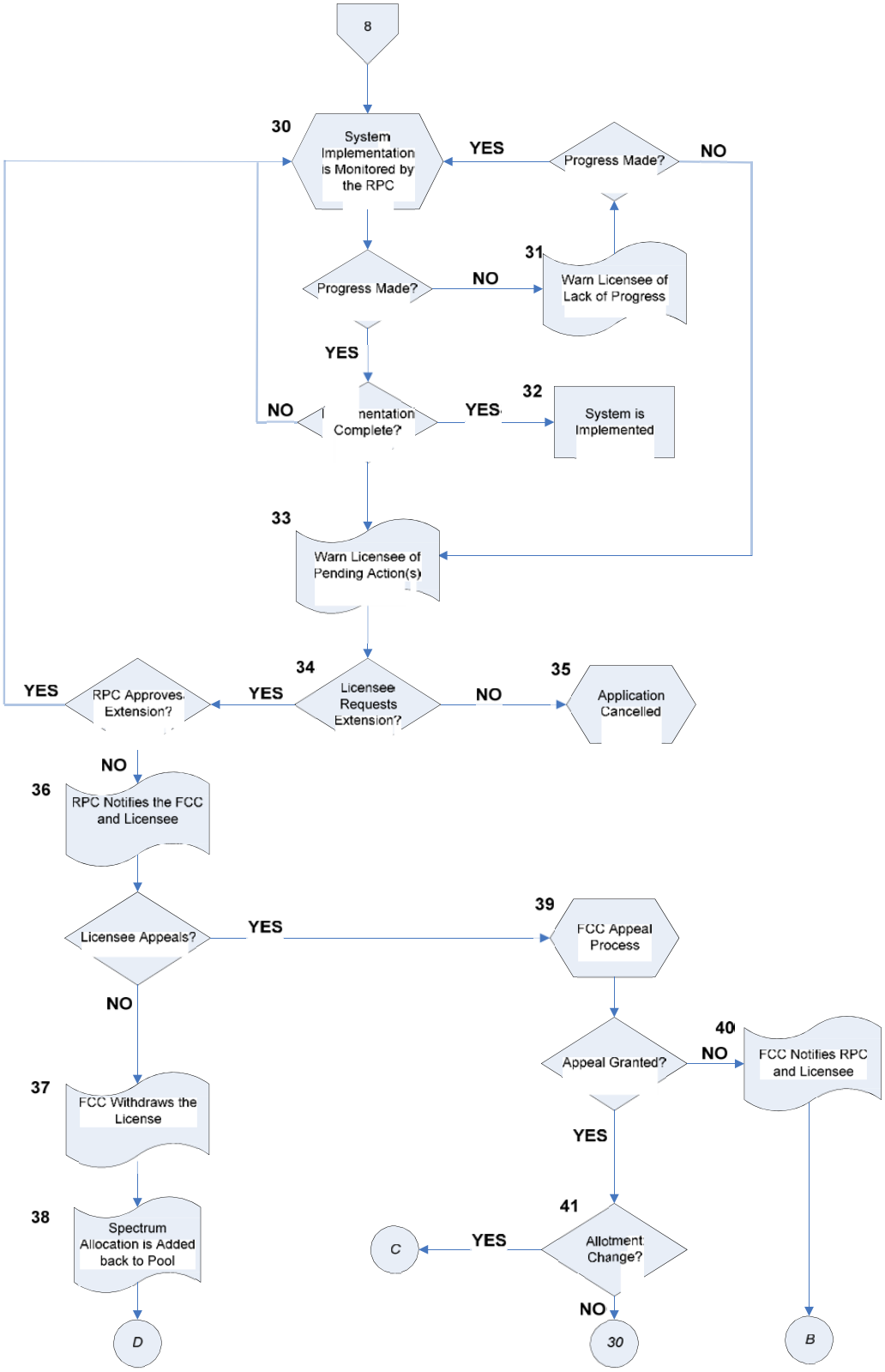
System implementation is monitored by the Region 28 Technical Subcommittee to determine if progress is being made (see Block #30 in Figure 8). Monitoring of system implementation by the Region 28 Technical Subcommittee will take place at a minimum of six-month intervals until implementation is complete. If progress is being made, the system is ultimately implemented (Block #32). If progress is not made, the applicant/licensee is warned of the potential consequences of its lack of progress (Block #31).

The Region 28 Technical Subcommittee continues to monitor progress on the implementation of the system. If monitoring indicates that progress is still not being made, the applicant/licensee is notified (Block #33) of pending action to withdraw the channel allotment(s). The notified applicant/licensee can request an extension (Block #34) of time from the RPC to complete its slow-growth plan or can allow the application to be cancelled (Block #35). If the applicant/licensee requests an extension, and the RPC agrees, a concurrence letter acknowledging the applicant's request will be produced by the RPC and sent to the FCC.

If the RPC grants an extension to the applicant/licensee, the system implementation monitoring process will continue and the activities in blocks #30 - #33 will reoccur. If the RPC does not grant an extension, the applicant/licensee and FCC will be notified (Block #36). The notified applicant/licensee can appeal this action or allow the license to be withdrawn (Block #37). If the allotted frequencies are withdrawn, they are added back into the frequency pool (Block #38) and the process begins a second iteration, starting back at Block #1.

If the applicant/licensee appeals the RPC's decision, the FCC appeal process will ensue (Block #39). If the FCC denies the appeal, the RPC and applicant/licensee will be notified (Block #40). If the FCC grants the appeal with channel-allotment changes, the process reverts to Block #22 (frequency pool is allotted). If there is no channel-allotment change, the process reverts to Block #30 (system implementation is monitored by the RPC).

Figure 8 - Application Review Flowchart - Page 8 of 8



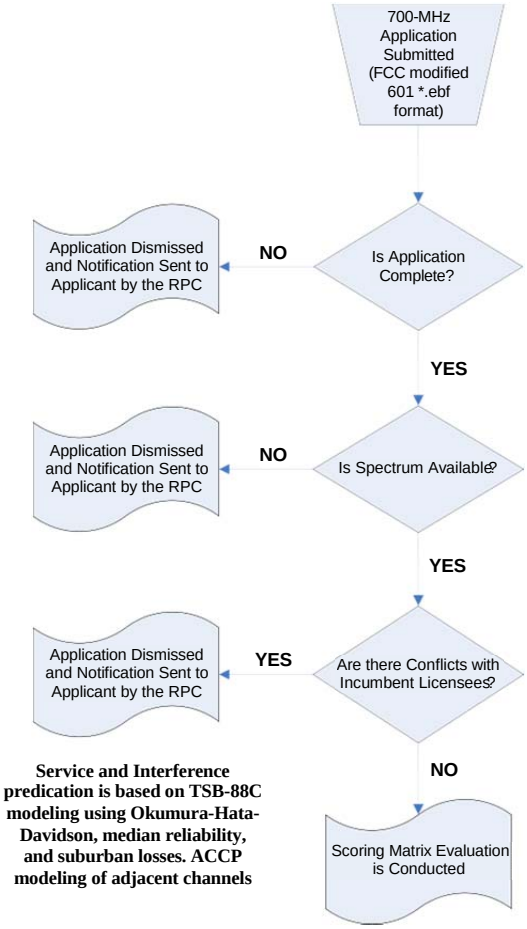
3.4 Technical Evaluation of Applications

Complete application packages shall undergo a technical review according to the procedures described in this section.

In order for an application to pass the technical evaluation process, it must:

A. Be Contain the required technical parameters
B. consistent with the CAPRAD 700 MHz National pre-allotment channel pool for Region 28 and/or an alternative approach acceptable to the RPC
C. Protect licensed assignments and unlicensed allotments under past filing windows

Figure 9 - Overview of Technical Review Process



3.5 Coordination with Adjacent Regions – from 47 CFR §90.527 (a)(5)

Each application will be checked by the RPC 28 Technical Subcommittee to ensure that its acceptance would not cause harmful interference to existing licensed systems and allotments.

Each application must be consistent with the CAPRAD 700 MHz National pre-allotment channel pool for Region 28. Any application packages that do not provide the appropriate pool protection as required will be returned to the applicant, with information regarding other impacting applications. The applicant will be allowed thirty (30) days to respond.

3.6 Use of the CAPRAD Pre-Allotment Table

The Region believes that the CAPRAD Pre-Allotment Table represents an appropriate strategy as the initial basis to assign channels in the first window of applications from within the Region. CAPRAD was established to ensure an appropriate distribution of channels on the basis of geographic population. Additionally, the channels were assigned to minimize the potential of co-channel and adjacent channel interference. However, CAPRAD did not differentiate the channel allotments based upon geographical areas already enjoying advanced digital trunked radio services in the 800 MHz band and contrast those allotments with users in highly populated areas utilizing older conventional technologies. It is often the users of older conventional systems that may have the greatest need for spectrum to construct modern digital trunked radio systems. CAPRAD's use of geographical separations of channels also does not consider the actual system technical parameters or service area. As an example, the listing of a specific channel to a county geographic area does not consider that the channels may in actuality be used by a city in that county with a significantly smaller service area. Additionally CAPRAD does not consider RF path loss between reuse areas (i.e. terrain obstacles). In both of these examples, the reuse criteria of CAPRAD can be significantly reduced. This highlights the Region 28 position that CAPRAD is a starting point, not an end point, in channel allotments.

As a principle, the Region will utilize CAPRAD as the fundamental basis to make initial channel allotments to an eligible user within a geographic area. The Region recognizes and interprets the Commission's rules to mean that channels are assigned geographically and as an example, not to specific political entities such as a county government, but to any eligible user within a county. To illustrate further, if a CAPRAD s is to (hypothetical) Smith County, any eligible user within Smith County may apply for use of the channel as may be consistent with 47 CFR § 90 Subpart R.

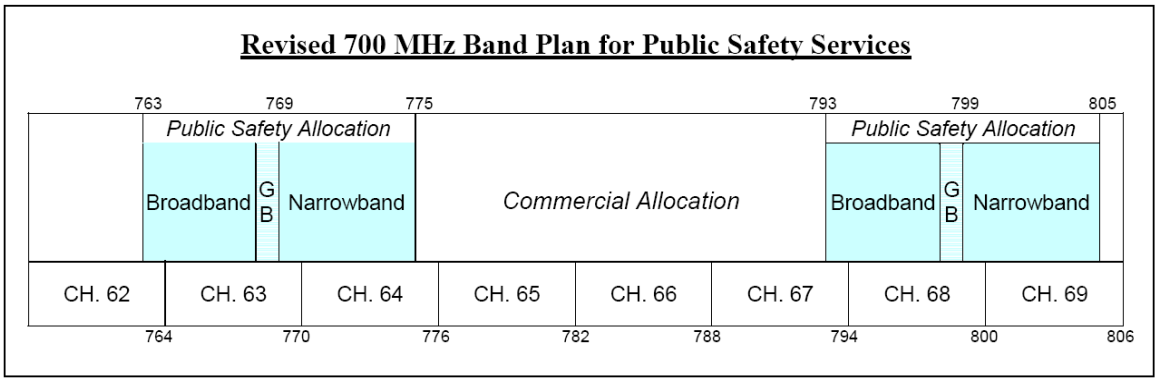
If an eligible user in Region 28 requires more channels than are available within CAPRAD and the facts and circumstances of the user's request justify the channels, the Region will endeavor to meet the applicant's requirements provided that the applicant provides documentation to support the need for additional channels. The documentation shall be provided at the expense of the applicant and may include "Grade of Service" studies, proposed channel loading data, fleet maps, and other documents demonstrating

the need for additional channels.

The Region believes that the most efficient use of spectrum curtails the arbitrary allotment of voice channels in four blocks of adjacent 6.25 KHz channels. As will be detailed in the Plan, the Region supports a "technology-neutral" strategy that permits an applicant to specify the spectral requirements of the proposed system which may deviate from the CAPRAD table of allotments.

To minimize the likelihood of "orphan" channels, the Region will permit the appropriate exchange of CAPRAD-assigned channels between eligible users desiring 12.5 KHz allotments as consistent with Section 6.3 of this Plan.

Region 28 will assign channels pursuant to the Commission's Second Report and Order to Docket WT 96-86 released August 10, 2007 as depicted below.



3.7 Allotment Disputes

An eligible licensee may protest a proposed system within 30 calendar days of the Window 1 notification. CAPRAD geographic area allotments will only be considered protected for a period of three years from the date the FCC approved the Region 28 Plan, after which time only FCC licensed allotments receive protection. Protests will only be considered if the allotment does not conform to the Region 28 Plan or the objecting agency or the Chairperson can show harmful interference is likely based on the information submitted by the agency requesting the new allotment. If an agency with pre-licensed/Region approved co-channel or adjacent channel allotments objects to a proposed allotment due to concerns about potential interference, the objecting agency may request field tests be done to confirm or refute interference potential. The completion of these field tests will be required for Regional application approval. Coverage area service/interference contours of the proposed system(s) should meet values designated in Section 6.1 of this document. Any costs associated with field tests or any other requirement to obtain Region 28 plan approval is the responsibility of the agency submitting the application to Region 28.

The parties involved must resolve the allotment dispute pursuant to the Plan and notify the Region Chair of such resolution within 30 calendar days. If the parties involved cannot resolve the allotment dispute within that timeframe, then a special full Committee

meeting will be scheduled to consider and vote on the protest. If approved, the application will be submitted through the CAPRAD database to the applicant's chosen FCC-certified frequency coordinator for processing.

3.8 Lower Power "Campus Eligible" General Use Channels

With the implementation of 700 MHz public safety spectrum throughout Region 28, there may be opportunities for increased channel reuse when developing radio systems for "campus" type operations. Examples of those who may capitalize on this opportunity include hospitals, stadiums, malls, or other places of public gathering, universities, transit systems, and ports. While these channels have been designated in jurisdictional pool allotments with proper designations, they do not enjoy the benefits of wide area channels in that they are not cleared for usage over a wide area. In many instances, facilities require a smaller or more specific geographical coverage area than assumed in the initial channel packing plan and may be able to be reused more efficiently. These "campus" type systems also, in many cases, require in-building or confined space/tunnel radio coverage or communications along a linear pathway, such as a maintenance or right of way. Public safety channels can be allotted to this type of operation in a region and can lead to effective system development, along with increased spectral efficiency, if power levels and Area of Protection (AOP) of the area are taken into account in system planning. These parameters must be established appropriate to the area of coverage. In order to facilitate this effective method of system implementation, channels have been identified in certain areas of Region 28 that may be utilized in a smaller service area. These channels may not be eligible to be utilized throughout the jurisdiction to which they are allotted and the following criteria must be adhered to when requesting channels from Region 28 for operations of this type:

A. The 50dBu F(90,50)service contour[10] of the proposed system must not exceed an area more than 2 miles from the proposed transmitter site. When this 2-mile distance extends to an adjacent region, the applicant must obtain concurrence from the adjacent region. Reduced external antenna height, along with reduced effective radiated power (ERP), directional antennae, distributed antenna systems, and radiating "leaky coax," are all tools that should be utilized in the development of these type systems.

B. Region 28 will ensure that the development of these types of systems will in no way interfere with co-channel or adjacent channel users within Region 28 or Region 28's adjacent neighbors. The Chairperson of the Region or its Technical subcommittee, or a majority of the members of the region, has the authority to request and require engineering studies from the applicant that indicates no harmful interference will be introduced to any co-channel or adjacent channel existing user prior to application approval.

[10] Contours are calculated using methods described in TIA TSB-88B (or a subsequent later version), by using Okumura-Hata-Davidson propagation modeling, relative to an open environment. The modeling is to be based on a 1 arc second terrain data. Land Use-Land Cover (LULC) losses are to be applied; however the diffraction portion of the modeling, where it can serve to artificially limit the size of the contour, must be disabled

C. For 12.5/25 kHz co-channel allotments, the 50dBu F(90,50) service contour of the proposed stations will be allowed to extend beyond the transmitter site for a distance no greater than 2 miles. An adjacent/alternate 12.5/25 kHz channel shall be allowed to have its 60 dBμ (50, 50) contour touch, but not overlap the 40dBμ service (90, 50) contour of an adjacent/alternate system being protected. Evaluations should be made in both directions to ensure compliance. The approval of systems utilizing jurisdictional allotment channels labeled "Campus" is subject to approval of the Region 28 700 MHz regional planning committee. They are the final authority on parameters associated with "campus" type operations.

If Region 28 receives an application for low power fixed use and the proposed service contour encroaches onto an adjacent region prior to the channel allotted to the region being implemented in a specific system, the application must be modified. Through the modifications, the service contour shall not encroach into the adjacent region unless the applicant provides the Region 28 Planning Committee with written concurrence from the adjacent region permitting the original design.

3.9 Management of Channel Allotments

All channels approved by Region 28 for licensees under its jurisdiction should be placed into operation pursuant to the provisions of 47 CFR §90.551. The Region 28 Plan requires that prior to request for approval to use channels, the licensee must be actively preparing for the development of a 700 MHz radio system. Attributes of the licensee's intent to use the channels includes but is not limited to:

A. Completion of a Needs Assessment study documenting the need for channels in the 700 MHz band and/or
B. Development and/or issuance of a Request for Proposals (RFP) or other procurement document designed to acquire a 700 MHz land mobile radio system and/or
C. Approval of funding for the radio project
D. A specific timetable for the system resulting in a target date for placing the system on the air

Pursuant to 47 CFR § 90.551 (Construction requirements), each station authorized to operate in the 769-775 MHz and 799-805 MHz frequency bands must be constructed and placed into operation within 12 months from the date of grant of the authorization. However, licensees may request a longer construction period, up to but not exceeding 5 years, pursuant to § 90.155(b).

In the event that a licensee has not taken substantial steps to implement the 700 MHz radio system in accordance with the provisions of this section of the Plan, Region 28 reserves the right to support the return of the channels to the general pool for reallotment to other licensees.

Notwithstanding the provisions above, the recommendation of channel use shall not be

rescinded until the licensee has been notified of such intent to withdraw Regional support for use of channels ninety (90) days prior to such action. The licensee shall be afforded an opportunity to request in writing an extension of time to maintain Regional support related to use of the channels. Such request shall detail the justifications for maintaining the channels and indicate when such channels shall be placed on the air for the purposes of testing or operations.

Once notified by the Region of its intent to rescind support for use of the channels, the burden is placed upon the licensee to request in writing an extension of time. If the licensee does not file such an extension within ninety (90) days of notice issuance or if the request of the licensee is determined by the Region to be without merit, the Region will support return of channels to the general pool at the end of the ninety (90) day notice period.

3.10 How Region 28 Maximized Spectrum – from 47 CFR §90.527 (a)(6)

The Region is very cognizant of the need to utilize spectrum efficiently. Of equal importance, the Region believes that the allotment of spectrum should be "technology neutral" and tailored to the requirements of the applicant. The Region takes note of the fact that the United States Department of Homeland Security has adopted the Project 25 (P25) standard as the preferred technological standard for public safety radio systems. The Region appreciates and supports the need for public safety interoperability that is manifested in the P25 standard.

P25 FDMA systems utilize "one-half" blocks or 12.5 KHz channels as opposed to the 25 KHz "full" blocks of channels contained with the CAPRAD allotments. 12.5 kHz TDMA systems employ two 6.25 KHz equivalent talkpaths yield 6.25 KHz equivalency. To arbitrarily assign 25 KHz blocks of channels to applicants developing P25 Frequency Division Multiple Access (FDMA)[11] or TDMA compliant systems potentially results in a waste of spectrum and the creation of orphan channels. To avoid the creation of orphan channels and equally, to maximize the spectrum available to Region 28 users, the Plan calls upon the Technical Committee to assign channels based upon the applicant's proposed technology reflecting the vendor neutral philosophy of the Region. Applicants considering the use of 25 kHz spaced channels with four time slot TDMA may request that the full allotment be granted, however the number of channels granted will be based upon the number of justified talk paths not RF channels. Thus, a 12.5 kHz channel is assumed to provide 2 talk paths and a 25 kHz channel 4 talk paths.

As indicated in the Region's Plan, CAPRAD will be the initial basis upon which channels are assigned. When only two of the four consecutive channels in CAPRAD are required, the Technical Committee will assign the remaining channels to another applicant provided that the Commission's rules relative to co-channel and adjacent channel interference are observed. Similarly, when four (4) consecutive 6.25 KHz equivalent channels are requested by an applicant, the Technical Committee will utilize the full

[11] The Plan recognizes that the use of FDMA technology would be limited pursuant to 47 CFR §90.535 (d)(1) and 47 CFR §90.535 (d)(2)

CAPRAD allotment pursuant to this Plan.

In the event that all potential applicants within a geographical area plan to utilize a P25 technology or waive claim to the assigned channels during the first allotment window, the Technical Committee may assign the channels to another geographical area or applicant pursuant to Section 6.3 of this Plan.

3.11 Low Power Channels

The Plan provides guidelines relative to the use of the low power 700 MHz channels under the authority of the Regional Planning Committee (RPC) as defined by 47 CFR §90.531(b)(3).

Eligibility

The following entities are eligible to use low-power channels under the control of the Regional Planning Committee pursuant to 47 CFR §90.523(a) and (b).

(a) State or local government entities.

Any territory, possession, state, city, county, town, or similar State or local governmental entity is eligible to hold authorizations in the 769–775 MHz and 799–805 MHz frequency bands.

(b) Nongovernmental organizations.

A nongovernmental organization (NGO) that provides services, the sole or principal purpose of which is to protect the safety of life, health, or property, is eligible to hold an authorization for a system operating in the 769–775 MHz and 799–805 MHz frequency bands for transmission or reception of communications essential to providing such services if (and only for so long as) the NGO applicant/licensee:

(1) Has the ongoing support (to operate such system) of a state or local governmental entity whose mission is the oversight of or provision of services, the sole or principal purpose of which is to protect the safety of life, health, or property;

(2) Operates such authorized system solely for transmission of communication essential to providing services the sole or principal purpose of which is to protect the safety of life, health, or property; and

(3) All applications submitted by NGOs must be accompanied by a new, written certification of support (for the NGO applicant to operate the applied for system) by the state or local governmental entity referenced in paragraph (b)(1) of this section.

Low Power 700 MHz Channel Use

Frequencies will be used in a simplex or repeater mode as specified within this provision of the Region's Plan for 700 MHz. The Plan will combine two channels as contained in 47 CFR §90.531(b)(3) to yield a 12.5 KHz simplex operating frequency. In the repeater mode, four 700 MHz channels shall be combined to yield a 12.5 KHz transmit and 12.5 KHz receive frequency.

Use within the Region

Low-power 700 MHz frequencies are limited to transmissions with the effective radiated power (ERP) as established by the Commission. These frequencies can be used at the broad discretion of eligible users in one of two methodologies, direct radio-to-radio or simplex operation and as an Incident Area Network (IAN) or other low power technology providing a repeater capability. The use of these frequencies for official public safety or public service communications is permitted by a single public safety agency or prior to the actual invocation of interoperable communications between two or more public safety agencies. Communications of a personal non-official purpose are prohibited.

Allotment of Frequencies

First responders have broad discretion in the use of these channels. However, if an incident is of sufficient scale to invoke the National Incident Management System (NIMS), the Incident Commander shall determine which low-power channels shall be used for first responders as well as the use of simplex and/or IAN repeater technology.

Modulation

Pursuant to 47 CFR §90.525(a), operation on these channels may utilize digital or analog modulation. For the purpose of this Plan, analog operations will be utilized in Region 28. Analog operations will utilize the 11K0F3E emission type.

Programming of Frequencies

Eligible licensees are encouraged to program related frequencies into 700 MHz capable mobile and portable radios as may be practical pursuant to the Service Allotment tables on the following pages. This programming is not mandatory as some licensees may have insufficient capacity in subscriber devices to accommodate these frequencies.

Service Allotments

A table of repeater and direct or simplex assignments is found below and on the following pages. These assignments notate specific frequencies reserved for EMS, fire, and law enforcement users. For all other users, Generic Public Safety/Public Service frequencies exist that can be used by any eligible licensee as defined in 47 CFR §90.523.

Repeater/Incident Area Network Operation

From the Department of Homeland Security SAFECOM Statement of Requirements[12], **An incident area network (IAN) is a network created for a specific incident. This network is temporary in nature**. For the IAN or other repeater operation, the Region will follow the national deployment model; the lower frequency shall be used for the Repeater transmitter frequency while the upper frequency is employed for mobile/portable transmissions. Repeater operation is identified by the "2" (2-channel) behind the service name, e.g. "7TAC**2**1 meaning 700 MHz (7) Tactical (TAC) Frequency with Repeater (2) frequency 1 (1).

Name	Repeater TX	Repeater RX	Applicable Service
7TAC21	Channels 1-2	Channels 961-962	Generic Public Safety/Service
7TAC22	Channels 3-4	Channels 963-964	Generic Public Safety/Service
7TAC23	Channels 957-958	Channels 1917-1918	Generic Public Safety/Service
7FIRE21	Channels 5-6	Channels 965-966	Fire
7FIRE22	Channels 7-8	Channels 967-968	Fire
7MED21	Channels 949-950	Channels 1909-1910	EMS
7MED22	Channels 951-952	Channels 1911-1912	EMS
7LAW21	Channels 953-954	Channels 1913-1914	Law Enforcement
7LAW22	Channels 955-956	Channels 1915-1916	Law Enforcement

Name	Repeater TX	Repeater RX	Applicable Service
7TAC21	Channels 961-962	Channels 1-2	Generic Public Safety/Service
7TAC22	Channels 963-964	Channels 3-4	Generic Public Safety/Service
7TAC23	Channels 1917-1918	Channels 957-958	Generic Public Safety/Service
7FIRE21	Channels 965-966	Channels 5-6	Fire (1)
7FIRE22	Channels 967-968	Channels 7-8	Fire (1)
7MED21	Channels 1909-1910	Channels 949-950	EMS (2)
7MED22	Channels 1911-1912	Channels 951-952	EMS (2)
7LAW21	Channels 1913-1914	Channels 953-954	Law Enforcement (3)
7LAW22	Channels 1915-1916	Channels 955-956	Law Enforcement (3)

(1) These frequencies only programmed into mobile and portable radios used in the fire radio service.
(2) These frequencies only programmed into mobile and portable radios used in the EMS radio service.

[12] SAFECOM Statement of Requirements, March 10, 2004, page 6.

(3) These frequencies only programmed into mobile and portable radios used in the law enforcement radio service.

Direct Radio-to Radio or Simplex Operation

Direct or simplex operation is identified by the "1" (1-channel) behind the service name, e.g. "7TAC**1**1 meaning 700 MHz (7) Tactical (TAC) Frequency with "Direct" or simplex communications (1) on frequency 1 (1).

Name	Channels	Use (Notes)
7TAC11D	Channels 1-2	Generic Public Safety/Service
7TAC12D	Channels 3-4	Generic Public Safety/Service
7TAC13D	Channels 961-962	Generic Public Safety/Service
7TAC14D	Channels 963-964	Generic Public Safety/Service
7TAC15D	Channels 957-958	Generic Public Safety/Service
7TAC16D	Channels 1917-1918	Generic Public Safety/Service
7FIRE11D	Channels 5-6	Fire Incident Management (1)
7FIRE12D	Channels 7-8	Fire Incident Management (1)
7FIRE13D	Channels 965-966	Fire Incident Management (1)
7FIRE14D	Channels 967-968	Fire Incident Management (1)
7MED11D	Channels 949-950	EMS (2)
7MED12D	Channels 951-952	EMS (2)
7MED13D	Channels 1909-1910	EMS (2)
7MED14D	Channels 1911-1912	EMS (2)
7LAW11D	Channels 953-954	Law Enforcement (3)
7LAW12D	Channels 955-956	Law Enforcement (3)
7LAW13D	Channels 1913-1914	Law Enforcement (3)
7LAW14D	Channels 1915-1916	Law Enforcement (3)

(1) These frequencies only programmed into mobile and portable radios used in the fire radio service.
(2) These frequencies only programmed into mobile and portable radios used in the EMS radio service.
(3) These frequencies only programmed into mobile and portable radios used in the law enforcement radio service.

3.12 Wideband Data

Pursuant to the Commission's Second Report and Order to Docket WT 96-86 released on August 10, 2007, Region 28 has deleted all references to the 700 MHz wideband channels as contained in the original provisions of 47 C.F.R. §90.531(c).

3.13 Dispute Resolution - Intra-Regional[13]

In the event an agency disputes the implementation of this plan or the Federal Communications Commission approval of this plan or parts of this plan, the disputing agency representative must notify the Chair of the Region in writing. This section does not apply to protests over new spectrum allotments. The Chair will attempt to resolve the dispute on an informal basis.

If after 30 days the dispute is not resolved, the Chair (or Vice Chair) will appoint a Dispute Resolution Committee consisting of a member from each the State of Delaware, the State of New Jersey, the Commonwealth of Pennsylvania and at least three additional members from the jurisdictions in Region 28. That committee will select a Chair to head the committee.

The Regional Plan Chair (or Vice Chair) will represent the Region in presentations to the Dispute Resolution Committee. The Committee will hear input from the disputing agency, any effected agencies, and the Region Chair. The Committee will then meet in executive session to prepare a recommendation to resolve the dispute. Should this recommendation not be acceptable to the disputing agency/agencies, the dispute and all written documentation from the dispute will be forwarded to the National Planning Oversight Committee for dispute resolution. As a last resort, the dispute will be forwarded to the Federal Communications Commission for final resolution.

3.14 Protection of TV/DTV stations

Deleted as no television stations operate in the 700 MHz public safety band any longer.

[13] *See Appendix J for dispute resolution procedures.*

3.15 47 CFR §90.545 TV/DTV Interference Protection Criteria

Deleted as no television stations operate in the 700 MHz public safety band any longer.

4.0 Process for Handling Unformed Regions

All Regional Planning Committees adjoining Regional Planning Committee 28 have convened.

5.0 Coordination with Adjacent Regions

The Regions adjacent to Region 28 are listed below:

Region 8: New York-Metropolitan

Allen J. Demcoe
Chairperson
Middlesex County Radio Systems and Interoperability Coordinator
1001 Fire Academy Drive, Sayreville, NJ 08872
Phone: 732-316-7183
Wmail: allen.demcoe@co.middlesex.nj.us

Region 20: District of Columbia, Maryland and Northern Virginia

Wayne A. McBride
Chairperson
Division Chief, Communications, Prince George's County
4621 Boston Way Suite A, Lanham, Maryland 20706
Phone: 240-832-0715
Email:

Region 30: New York-Albany

Lee Shurtleff
Chairperson
County of Tompkins
92 Brown Road, Ithaca, NY 14850
Phone: 607-257-3888
Email: lshurtleff@tompkins-co.org

Region 36: Western Pennsylvania

Randall J. Brozenick
Chairperson
County of Armstrong Department of Public Safety
450 E Market St
Kittanning PA 16201
Phone: 724-548-3430
Fax: 724-548-3326
Email: rjbrozenick@co.armstrong.pa.us

Region 55: New York-Buffalo

Steven C. Sharpe
Chairperson
Director
Genesee County Emergency Communications
165 Park Road
Batavia, NY 14020
Phone: 585-345-3000 ext. 3400
Fax: 585-343-9129
Email: ssharpe@co.genesee.ny.us

NEW YORK – New Jersey
FCC Region 8 700-MHz
REGIONAL PLANNING COMMITTEE

Lieutenant Anthony Melia
Interim Chairperson
Region 8 700 and 800-MHz Planning Committees
New Jersey State Frequency Coordinator
APCO New Jersey State Frequency Advisor
Essex County Sheriff's Office, Field Operations Division
50 Nelson Place, Newark, New Jersey 07102
V: 973.395.2567
F: 973-414-1506
Email: meliaa@apco911.org

January 27, 2009

INTERREGIONAL CONCURRENCE NOTIFICATION

Mr. Richard R. Reynolds
Chairman - Region 28 700 & 800-MHz Planning Committees
Department of Technology and Information
801 Silver Lake Boulevard
Dover, Delaware 19904-2407
Email: Richard.Reynolds@state.de.us

In the Matter of

FCC Regional Planning Committee (RPC) 28 Proposed 700-MHz Plan	)))	FCC PS Docket No. 06-229 and WT Docket No. 02-378

Dear Chairman Reynolds:

On October 20, 2008 Regional Planning Committees (RPC) 28 (Eastern Pennsylvania, Southern New Jersey and Delaware) submitted its revised plan for the 700-MHz General Use Channels in the 769-775 and 799-805 MHz Bands.

RPC 8 has completed a thorough review of the proposed Plan, the modifications incorporated as per the Second Report and Order (R&O), and hereby provides this correspondence to serve as the official, written concurrence for the proposed RPC 28 700-MHz Plan.

Please contact me with any questions, comments, or concerns.

Best Regards,

Lieutenant Anthony Melia

Vice Chair/Acting Chair
Region 8 700 MHz and 800 MHz RPCs

27 January 2009
TCL/AM

Page 1 of 1

Region 20 - 700MHz Regional Planning Committee

District of Columbia, State of Maryland and Northern Virginia

G. Edward Ryan II, Chairman
Region 20 700 and 800 MHz Planning Committee
Department of Natural Resources
580 Taylor Avenue, E-3
Annapolis, MD 21401
Telephone: (410) 260-8843
Fax: (410) 260-8878
Email: gryan@dnr.state.md.us
Email: Region20chair@msn.com

November 13, 2007

Richard R. Reynolds, Chairman
Region 28 700 and 800 MHz Planning Committees
Telecommunications Technologist
State of Delaware
Department of Technology and Information
801 Silver lake Blvd
Dover, DE 19904-2407
Telephone: (302) 739-9648
FAX: (302) 739-7243

Regarding: WTB Docket 02-378: Interregional Concurrence for the Region 28[1] 700-MHz Public-Safety Communications Plan and Addenda

Dear Mr. Reynolds:
Regional Planning Committee (RPC) 20 is in receipt of the proposed RPC 28 700-MHz Regional Plan and Addenda for the General Use Channels in the 769-775 MHz frequency band (FCC Second R&O in PS Docket 06-229). RPC 20, having fully reviewed the RPC 28 700-MHz Public-Safety Communications Plan and Addenda sends this letter to serve as the official, written concurrence for your proposed Plan.

Best Regards,

/s /G. Edward Ryan, II
G. Edward Ryan II, Chairman
Region 20 700 and 800 MHz Planning Committees

13 November 2007
Date

cc: **Mr. Gary P. McKelvey, Vice Chair**
Region 20 – 700 MHz Planning Committee
Department of Information Technology
Loudoun County, Virginia
41975 Loudoun Center Place, S.E.
Leesburg, VA 20175-8901

Attached: CD Copy of the Final Draft Region 28 Plan

NEW YORK – ALBANY
FCC Region 30 700-MHz
REGIONAL PLANNING COMMITTEE

David A. Cook, Chairman
Region 30 700 and 800 MHz Planning Committees
Chief
East Greenbush Fire Company
Telephone: (518) 956-2812
FAX: (518) 477-6085
eFax: (408) 580-8496
Email: dcook@fedeng.com

January 20, 2009

INTERREGIONAL CONCURRENCE NOTIFICATION

Mr. Richard R. Reynolds
Chairman - Region 28 700 & 800-MHz Planning Committees
Department of Technology and Information
801 Silver Lake Boulevard
Dover, Delaware 19904-2407
Email: Richard.Reynolds@state.de.us

In the Matter of

	)	
FCC Regional Planning Committee (RPC) 28	)	FCC PS Docket No. 06-229 and WT Docket No. 02-378
Proposed 700-MHz Plan	)	

Dear Chairman Reynolds:

On October 20, 2008 Regional Planning Committees (RPC) 28 (Eastern Pennsylvania, Southern New Jersey and Delaware) submitted its revised plan for the 700-MHz General Use Channels in the 769-775 and 799-805 MHz Bands.

RPC 30 has completed a thorough review of the proposed Plan and the modifications incorporated as per the Second Report and Order (R&O). Region 30 hereby provides this correspondence to serve as the official, written concurrence for the proposed RPC 28 700-MHz Plan.

It has been our pleasure to work with you and please feel free to contact me with any questions, comments, or concerns.

Best Regards,

David A. Cook

David A. Cook, Chairman

FCC RPC 30 700-MHz and 800-MHz NPSPAC Planning Committees

20, January 2009
TCL/DAC

Page 1 of 1

REGION 36
700 MHz PLAN

Randall J. Brozenick, Chairperson
Region 36, Western Pennsylvania
Director, County of Armstrong
Department of Public Safety
450 E. Market St.
Kittanning, PA 16201

December 15, 2008

Mr. Richard R. Reynolds
Chairperson Region 28
State of Delaware - DTI
801 Silver Lake Blvd.
Dover, DE 19904-2407

Dear Mr. Reynolds,

Region 36 (Western Pennsylvania) is in receipt of your proposed 700 MHz Regional Plan, submitted to this Committee for review and approval.

This letter serves as the official, written concurrence of Region 36 to Region 28's 700 MHz Regional Plan.

Sincerely,

Randall J. Brozenick
Chairperson Region 36, Western Pennsylvania
Director, County of Armstrong
Department of Public Safety
450 E. Market St.
Kittanning, PA 16201

NEW YORK-BUFFALO
FCC Region 55 700-MHz
REGIONAL PLANNING COMMITTEE

Steven Sharpe
Chairman
Region 55 700 and 800-MHz Planning Committees
Director of Emergency Communications
Genesee County Office of the Sheriff
165 Park Road
Batavia, New York 14020-1283
Tel: 585.345.3000 x 3400
Email: ssharpe@co.genesee.ny.us

January 16, 2009

INTERREGIONAL CONCURRENCE NOTIFICATION

Mr. Richard R. Reynolds
Chairman - Region 28 700 & 800-MHz Planning Committees
Department of Technology and Information
801 Silver Lake Boulevard
Dover, Delaware 19904-2407
Email: Richard.Reynolds@state.de.us

In the Matter of

FCC Regional Planning Committee (RPC) 28 Proposed 700 MHz Plan FCC PS Docket No. 06-229 and WT Docket No. 02-378

Dear Chairman Reynolds:

On October 20, 2008 Regional Planning Committees (RPC) 28 (Eastern Pennsylvania, Southern New Jersey and Delaware) submitted its revised plan for the 700-MHz General Use Channels in the 769-775 and 799-805 MHz Bands.

RPC 55 has completed a thorough review of the proposed Plan, the modifications incorporated as per the Second Report and Order (R&O), and hereby provides this correspondence to serve as the official written concurrence for the proposed RPC 28 700-MHz Plan.

Please contact me with any questions, comments, or concerns.

Best Regards,

Steven C. Sharpe.

Steven C. Sharpe, Chairman
FCC RPC 55 700-MHz and 800-MHz NPSPAC Planning Committees

6.0 System Design/Efficiency Requirements

6.1 Interference Protection

Applicants are expected to design their systems for maximum signal levels within their coverage area and minimum levels in the coverage area of other co-channel users. Quality system engineering, the use of directional and/or downtilt antennae, and the advocacy of multi-agency/multi-discipline systems that promote interoperability should be employed by applicants to accomplish this goal. An applicant's Coverage Area is normally the geographical boundaries of the applicant's service areas plus a five mile area beyond. Coverage Areas that extend beyond the 5 miles from the jurisdictional boundary of an applicant must be explained and justified to satisfaction of the Region 28 Committee

The Region notes the extensive use of mutual aid agreements by jurisdictions within RPC28 and will accommodate the requests of applicants for wider coverage areas when appropriate provided that any extension does not result in harmful co-channel or adjacent channel interference. When required, the Region will coordinate with an adjacent Region to ensure that an interstate or intrastate mutual aid requirement is met.

In extraordinary circumstances impacted by the need to provide wider areas of coverage to meet the potential of national, regional emergencies, or mutual aid agreements, the Region may also permit the coverage area to extend beyond the normal limits reflected in the paragraphs above provided that such extension does not cause harmful co-channel or adjacent channel interference to any licensee or potential licensee employing a channel in an identified geographical allotment within the Region 28 Plan. The Region will not permit such a level of extraordinary coverage into an adjacent Region without the expressed and written approval of the adjacent Region.

6.1.1 Coverage Area vs Protected Service Area

System coverage should be designed as Interference Limited with minimum signal strength of 50 dBμ F(50,50) (-82 dBm) in the system coverage area while minimizing signal power out of the coverage area. This may require patterned antennas and extra sites compared to a design that assumes Noise Limited coverage The methodologies included within TIA TSB88 (most recent version) will be used to determine harmful interference utilizing a protected service area defined as a 40 dBμ F(50,50) (-93 dBm) signal. Protection of existing systems will be such that the 40 dBμ (F50,50) protected service area is not degraded by the co- channel 15 dBμ F(50,50) (-119 dBm) signal or the adjacent channel is based upon the Adjacent Channel Couple Power Ratio (ACCPR) found in Section 9.6 (normally - 50 dBμ F(50,50) (-82 dBm) signal) to the extent that the protected service area is degraded in excess of 2.5% of the geographic area, provided such degradation exists in the defined coverage area of the applicant (ie: degradation over water will not be considered unless the body of water was defined in the existing system coverage area). Region 28 will comply with National Coordination Committee recommendations of the Regional Planning Committee

Guidelines.

To maximize spectrum utilization, prudent engineering practices and receivers of the highest quality should be used in all systems. Given a choice of radios to choose from in a given technology family, agencies should use the units with the best specifications. This plan will not protect agencies from interference if their systems are under- constructed (i.e. areas with the established coverage area having minimum signal strength below 50 dBu), or the systems utilize low quality receivers. The applicant's implementation of prudent engineering practices will be encouraged by Region 28 at all times.

6.2 Spectrum Efficiency Standards

Initial allotments will be made on the basis of the 25 kHz channel blocks incorporated in CAPRAD and then modified as consistent with this Plan to provide 12.5 or 25 KHz blocks of channels.

The Region has weighted its award criteria to jurisdictions employing spectrally efficient radios..

In compliance with 47 CFR §90.527 (a)(6), Region 28 encourages small agencies to partner with other agencies in multi-agency or regional systems as they promote spectrum efficiency and both small and large agency capacity needs can be met. Loading criteria can also be achieved in multi-agency systems that will allow greater throughput for all agencies involved than that which could be achieved individually.

The Region 28 Committee will utilized a loading factor of 100 units per voice path for the first 10 voice paths, and 150 units per channel for any additional voice paths, to determine the maximum number of channels allotted to a system. Data usage of narrowband channels will require 19,200 kbps per 25 kHz of spectrum.

6.3 Orphaned Channels

The narrowband pool allotments within Region 28 will have a channel bandwidth of 12.5 and 25 kHz as required by the applicant. These 12.5 and 25 kHz allotments have been characterized as "technology neutral" and flexible enough to accommodate multiple technologies utilizing multiple bandwidths.

An orphaned channel may be used at another location within or proximate to the geographical area where it was originally approved, provided that it meets co-channel and adjacent channel protection (ACP) interference criteria in 47 CFR §90.543.

Region 28 will utilize the term "geographic area" as a guideline for channel implementation within Region 28. The definition of "geographic area" in this plan is the geographical/political boundaries of a given city or county, plus a distance of up to 30 miles outside of such boundaries of the geographic area of allotment. The Region intends that this provision should be interpreted by the Technical Committee permissively with the intent to reuse channels to the greatest extent practical as consistent with the provisions of 47 CFR §90 Subpart R. If the channel, or a portion of a channel, is being moved into a "geographic area" that is within 30 miles of an adjacent region, Region 28 will receive concurrence from the affected region.

By extending the "geographic area" into an adjacent county or city by a designated distance, it is anticipated this will increase the possibility that orphaned channel remainders will still be able to be utilized and reduce the potential for channel remainders to be forced to lay dormant**.** These movements will be documented on the National Public Safety Telecommunications Council CAPRAD database by the Region 28 Technical Committee.

If the "orphaned channel" remainder does not meet co-channel and adjacent channel interference criteria by moving it within the "geographic area" as listed above, and it is determined by the region that the "orphaned channel" cannot be utilized in the region without exceeding the distance described above, Region 28 will submit a plan amendment to the FCC to repack the channel to a location where its potential use will maintain maximum spectral efficiency. This FCC plan amendment will require affected region concurrence.

When in the best interest of public safety communications and efficient spectrum use within the Region, the Region 28 Regional Planning Committee shall have the authority to move orphaned channel allotments and/or co-/adjacent-channel allotments affected by the movement of orphaned channels, within its "geographic areas", which are defined above. This is to retain spectrum efficiency and/or minimize co-channel or adjacent channel interference between existing allotments within the region utilizing disparate bandwidths and technologies.

System Implementation - Repealed by FCC 14-172

7. 0 Interoperability Channels

There are many public safety and homeland security agencies, full-time and volunteer, operating throughout Region 28. The Region covers portions of three different states and adjoins other Regions containing many first responder agencies. The need for interoperability is critical and Region 28 encourages support for Interoperability Calling and Tactical Channels in all relevant frequency bands.

7. 1 Selection of Radios and Programming of Interoperability Channels

As required by 47 CFR § 90.547 (Narrowband Interoperability channel capability requirement) except as noted in Subpart R, mobile and portable transmitters operating on narrowband channels in the 769-775 MHz and 799-805 MHz frequency bands must be capable of operating on all of the designated nationwide narrowband Interoperability channels pursuant to the standards specified in 47 CFR§ 90.548 .

7.2 Tactical Channels

At this time, Region 28 will not set aside additional channels for interoperability use within the region other than as stated in the Plan. It is anticipated the FCC designated interoperability channels (6.25 KHz) will be sufficient to provide interoperability (voice and data) within Region 28.

All mobile and portable units operating under this Plan and utilizing 700 MHz channels

must be programmed with the minimum number of channels called for either in NCC guidelines or as the relevant Statewide Interoperability Executive Committee specifies. The channel display in these radios will be in accordance with the NCC guidelines that have common alphanumeric nomenclature to avoid any misinterpretation of use within Region 28. The relevant SIEC is the final authority on the interpretation of the distribution of the 700 MHz interoperability channels.

7.3 Deployable Systems

In this Plan, Region 28 supports use of deployable systems, both conventional and trunked. Deployable systems are prepackaged systems that can deploy by ground or air to an incident to provide additional coverage and capacity on designated 700 MHz interoperability channels and/or agency specific General Use Channels. This will minimize the expense of installing extensive fixed infrastructure in areas while still providing mission critical functionalities as the Region recognizes the difficulty of providing complete coverage in all areas due to financial, demographic, and geographical constraints.

Agencies should have conventional deployable systems capable of being operated on any of the FCC designated/NCC recommended interoperability tactical channels. The agencies that are part of a multi-agency trunked system and commonly provide mutual aid to each other are encouraged to have trunked deployable systems that operate on the

tactical channels designated by the FCC for this use. The relevant SIEC will develop the operational details for deploying these systems.

It is expected that the tactical channels set aside for trunked operation will be heavily used by deployable systems. Therefore, the tactical channels cannot be assigned to augment general use trunked systems.

7.3.1 Region 28 has reserved six frequencies proposed by the National Regional Planning Committee and National Public Safety Telecommunications Council for deployable trunked radio systems. However, these channels will only be available outside of the area where T-Band replacement is required under 47 CFR § 90.531(b)(2)(i)

7.4 Monitoring of Interoperability 700 MHz Calling and Tactical Channels

It is not anticipated that there will be any 700 MHz systems in operation within Region 28 until after February 18, 2009. Even after this date, the vast majority of land mobile radio systems operating on channels above 769 MHz will be in the older 800 MHz band. For the immediate future, Region 28 believes that it is appropriate for any new licensees using 700 MHz frequencies to monitor and have access to the current channels identification by the National Public Safety Planning Advisory Committee (NPSPAC) in the 800 MHz band.

Accordingly and until amended by the Region or superseded by order of the Commission, Region 28 will require applicants to install fixed network transceivers capable of monitoring the NPSPAC 800 MHz calling and four (4) tactical channels. Applicants may utilize a central agency to monitor the NPSPAC calling channel on their behalf.

Notwithstanding the other provisions of this section of the Plan, Region 28 may supplement the four (4) traditional NPSPAC tactical channels in 800 MHz with additional tactical channels in the 700 MHz band as provided by the Commission or the relevant SIEC.

7.5 Interoperability with Federal Government

First responders within Region 28 may also interoperate with first responders and Homeland Security officials during a disaster or related event. Information pertaining to interoperability with the agencies of the federal government is found in Appendix M.

8.0 Future Planning – from 47 CFR §90.531 (a)(7)

The initial process of allotments will be known as Window One. In this window, the CAPRAD pre-coordination database will be employed as the initial basis of channel allotments for geographical areas within Region 28, including the independent cities using criteria such as current population, 2000 Census data, height above average terrain (HAAT), and public safety use curves generated by the Public Safety Wireless Advisory Committee (PSWAC) to provide spectrally efficient frequency allotments.

In Window One, all channels identified in this Plan will be available to applicants operating in the geographical areas as found in Appendix G. In addition, channels may be provided to an applicant pursuant to the provisions of this Plan as found in Sections 3.11 and 6.3 of the document.

Applications for channels shall be submitted to the Technical Committee and reviewed by the Regional Committee for vote at the next scheduled meeting.

The initial window will be open from time of Commission approval of the Plan and further from that date, for a period of three (3) years. Three (3) years after the approval of the Plan by the Commission, Window One will close.

8.1 Windows of Future Channel Allotments

Pursuant to the provisions of FCC 14-172, the opening of windows for channel assignments was changed to comply with the Report and Order. The revised windows for the assignments of channels are as follows:

January 1, 2016 – March 31, 2016
April 1, 2016 – December 31, 2016
January 1 – June 30 of every year after 2016
July 1 – December 31 of every year thereafter

8.2 Review of the Plan's Effectiveness

As a standing agenda item for every meeting of Region 28, the Chair of the Technical Committee shall provide a report to the membership detailing the use of the spectrum and any administrative or operational issues arising from this Plan. In addition, the meeting Chair shall invite comments from members and any other persons in attendance at meetings relative to the effectiveness of the Plan.

At any time in which the Region Chair or the Chair of the Technical or Operations Committees has reason to believe that a provision of the Plan is adversely affecting public safety communications within Region 28, the Chairperson or Vice Chairperson operating in their absence has an affirmative responsibility to report the issues to the appropriate Committee for immediate attention.

Upon review of the reported conflict no later than sixty (60) days after the initial allegation; the appropriate Chair shall report the Committee's findings to the Region 28 Chairperson. The Region 28 Chairperson shall review the findings of the Committee reviewing the allegation. Depending upon the findings of the Chairperson of Region 28, one of three possible outcomes will be initiated.

A. Allegation Unfounded – No further action is Required. The person reporting the alleged issue shall be informed of the Region's decision.

B. Allegation Founded – Immediate Action not Required. When there is an affirmative finding of a problem with the Region's Plan and the matter can be appropriately deferred until placed on the agenda of the next meeting, the deferral of action is appropriate.

C. Allegation Founded – Immediate Action Required. When the Chairperson of Region 28 finds that a provision of the Plan is causing or may cause adverse impact to an applicant or potential applicant, the Chairperson may take executive action and grant relief by temporarily suspending a provision of this Plan until a Regional Meeting can be called. In the event that executive action is taken and a provision of this Plan is suspended, the effective period of suspension shall not extend beyond sixty (60) days unless ratified by the Region at a meeting called in response to the Chairperson's findings and executive action.

8.3 Inter-Regional Dispute Resolution Process

Region 28 is committed to work cooperatively and efficiently with all surrounding NCC Regions. In the unlikely event that a dispute arises between Region 28 and an adjacent Region or Regions regarding spectrum allotments or implementation that cannot be resolved within 60 days, the parties to the dispute will request a hearing by the National Regional Planning Oversight Committee. Additional details are located in APPENDIX O

8.4 Modifications to the Plan – from 47 CFR §90.527 (b)

In recognition that there will be amendments made to the Plan, the bylaws of the Region 28 700 MHz Planning Committee incorporate provisions permitting the amendments as may be necessary.

The Region 28 Plan will be modified when required by submitting a written request, signed by the regional planning committee, to the Chief, Public Safety and Homeland Security Bureau. The request will contain the full text of the modification, and certify that successful coordination of the modification with all adjacent regions has occurred and that all such regions concur with the modification.

9.0 Interference-Protection Criteria and System-Design Specifications

This section defines the interference-protection criteria, system deployment constraints, and assumptions that Region 8 employs in its application-evaluation process.

9.1 Recommended System Reliability

It is recommended that proposed facilities in Region 8 be designed to provide 50 dBμ (-82 dBm) received-power levels for reliable portable-coverage operations, and 40 dBμ (-93 dBm) received-power levels for reliable outdoor mobile-coverage operations.

9.2 Coverage- and Interference-Prediction Methodology

Both TSB-88 (latest edition) and the Longley-Rice propagation model in median mode (50/50/50) shall be used to evaluate coverage and interference for proposed systems in Region 8. The Longley-Rice model is used because it is freely available in the public domain and has consistent implementations across propagation-modeling programs of different sources, unlike the Okumura-Hata-Davidson model. All radiated- and received-power levels are referenced to a dipole antenna. Please see Appendix G, Antenna Pattern Information Form.

9.3 Responsible Radiation Control and System Design

In order to promote responsible use of 700-MHz spectrum resources, all applicants are required to control unnecessary radio-frequency (RF) radiation. Therefore, for all proposed facilities within the Region, 80% of the 50 dBμ (-82 dBm) Protected Service Area (PSA) must lie within the jurisdictional boundary plus an eight-kilometer buffer zone. The 50 dBμ (-82 dBm) PSA shall be assessed using Longley-Rice analyses.

9.4 Pool-to-Pool Reliability Degradation Threshold

Applications for facilities that have been pre-allotted within the National Pool (in-pool assignments) are required to provide co- and adjacent-channel interference protection to other in-pool assignments. Each in-pool application (which may consist of multiple facilities) must pose no more than 2.5% Area Reliability Degradation (ARD) at 90% reliability levels to any incumbent's protected service area. All facilities (including licensees and all approved allotments) in aggregate must pose no more than 5.0% cumulative area reliability degradation at 90% reliability levels to any incumbent's protected service area. The process for determining ARD is as follows:

- Compute the baseline Longley-Rice 3-second (minimum) tile coverage for each incumbent (victim) co- and adjacent-channel licensee within its jurisdictional area.
  - If any co- or adjacent-channel pool assignment remains unused, treat its jurisdiction/county as having ubiquitous 40 dBμ (-93 dBm) service levels.
  - Co- or adjacent-channel pool licenses and or previously accepted facilities shall be protected based upon their facility-specific parameters.
- Evaluate the baseline total number of tiles within the victim jurisdiction that achieve 90% or greater reliability levels using TSB-88 (latest edition) in conjunction with parameters for Channel Performance Criterion (CPC), receiver noise floor, and lognormal standard deviation (s). If any co- or adjacent-channel pool assignment remains unused, use the following as its deployed parameters:

- Receiver Noise Floor = -119 dBm,
- CPCf = 18 dB, and
- σ = 7 dB.
- These, along with the 40 dBμ (-93 dBm at 800 MHz), give the following reliability throughout the service area:
- R = 1 – Q[(-93 dBm – (-119 dBm) – 18 dB)/7 dB)] ~= 97%
- Once a facility-specific application has been granted, the baseline area reliability for co- or adjacent-channel pool licenses and or previously accepted facilities shall be evaluated based upon these facility-specific parameters.

- Evaluate the received-power levels of all proposed facilities at all tiles within the victim jurisdictional area. Combine these into an equivalent interferer using the process outlined in TSB-88 (latest edition).
- Re-evaluate the total number of tiles within each victim jurisdiction that achieve 90% or greater reliability levels, considering the effects of all proposed facilities.
- The ARD is defined as one minus the ratio of the number of tiles at 90% reliability (or greater) considering proposed facilities and the baseline number of tiles at 90% reliability (or greater).

9.5 Outside-to-Pool Reliability Degradation Threshold

Applications for facilities that have not been pre-allotted within the National Pool (outside-pool assignments) are also required to provide co- and adjacent-channel interference protection to other in-pool assignments. Each outside-pool application (which may consist of multiple facilities) must pose 0% ARD at 90% reliability levels to any incumbent's protected service area. ARD is computed as outlined in Section 9.4.

This reliability degradation threshold also applies to Region 8 in-pool assignments that are proposed outside of their National Pool county area, but allowed under the Region 8 plan as described in Section 9.4.

9.6 Evaluation of Adjacent-Channel Effects

The evaluation of adjacent-channel interference will follow Sections 9.1 through 9.5, except that the effective radiated power of the proposed stations shall be de-rated to account for Adjacent- Channel Coupled Power Ratio (ACCPR) effects. Please refer to Table 9, Adjacent-Channel Coupled Power Ratio Values, for the appropriate ACCPR values; note that the channel bandwidth should be larger than the technology-specific emissions bandwidth.

Table 9 - Estimated Receiver Parameters

Based on 47 CFR ¶ 90.543 and the P25 requirement for an ACCPR ≥ 65 dB into a 6.0 kHz channel bandwidth and leaving room for a migration from Phase 1 to Phase 2, allows for making the simplifying assumption that 65 dB ACCPR is available for both adjacent 25 kHz block.

Base initial (presorts) on 25 kHz channels. This provides the maximum flexibility by using 65 dB ACCPR for all but one possible combination of 6.25 kHz channels within the 25 kHz allotment.

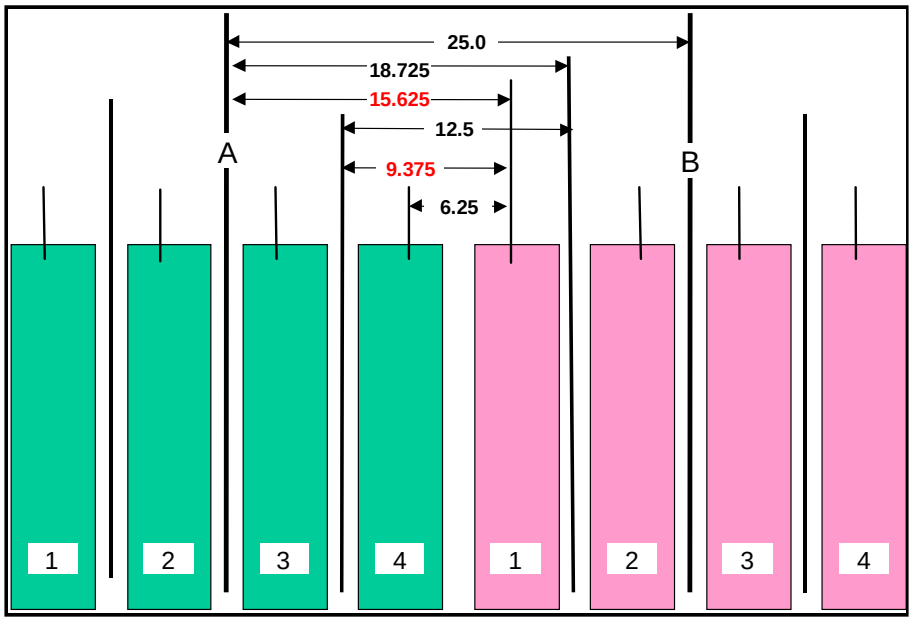


Figure 10, Potential Frequency Separations

Case	ACCPR
25 kHz	65 dB
18.725 kHz	65 dB
15.625 kHz	>40 dB
12.5 kHz	65 dB
9.375 kHz	>40 dB
6.25 kHz	65 dB

Table 10 - ACCPR Values For Potential Frequency Separations
All cases meet or exceed the FCC requirement. The most troublesome cases occur where the wider bandwidths are working against a Phase 2 narrowband 6.25 kHz channel. If system designers keep this consideration in mind and move the edge 6.25 kHz channels inward on their own systems, then a constant value of 65 dB ACCPR can be applied across all 25 kHz channels regardless of what is eventually deployed.

10.0 Certification – from 47 CFR §90.531 (a)(8)

Pursuant to the provisions of 47 CFR §90.531 (a)(8), I hereby certify that all planning committee meetings, including subcommittee or executive committee meetings were open to the public. A summary of the deliberations of the Committee pursuant to adopting this Plan can be found in Appendix D, in the minutes of the Regional Planning meeting.

William Carrow, Chairman

October 31, 2015

Appendices

Appendix A - Bylaws of Region 28

THE BYLAWS OF REGION 28
700 MHz REGIONAL PLANNING COMMITTEE
Adopted – August 17, 2006

ARTICLE 1
NAME & PURPOSE

1.1 **Name and purpose:** The name of this Region shall be Region 28 and the Committee shall be known as **"The Region 28 – 700 MHz Regional Planning Committee"**. Its primary purpose is to foster cooperation, planning, development of regional plans and the implementation of these plans in the 700 MHz Public Safety Band.

ARTICLE II
MEMBERS

For purposes of this Article, the term "member," unless otherwise specified, refers to both voting and non-voting members.

2.1 **Number, Election and Qualification:** The Regional Committee shall have two classes of members, "voting members" and "non-voting members." New members may be added at annual, special, or regular meetings.

A. **Voting Members:** Voting members shall consist of one representative from any single agency engaged in public safety within Region 28, eligible to hold a license under 47 CFR 90.20, 47 CFR 90.523 or 47 CFR 2.103.14 A single agency shall be allowed no more than one vote for each distinct eligibility category (e.g. police, fire, EMS, highway) within the agency's organization or political jurisdiction. In voting on any issue the individual must identify themselves and the agency and eligibility category, which they represent. Voting members may not vote on issues involving their entity.

B. **Non-Voting Members:** Non-voting members are all others interested in furthering the goals of public safety communications.

2.2 **Tenure:** In general, each member shall hold MEMBERSHIP from the date of acceptance until resignation or removal.

[14] Descriptor FCC Rules Part 90.

2.3 **Powers and Rights:** In addition to such powers and rights as are vested in them by law, or these bylaws, the members shall have such other powers and rights as the membership may determine.

2.4 **Suspension and Removal:** A Member may be suspended or removed with cause by vote of a majority of members after reasonable notice and opportunity to be heard. Failure to attend 50% of meetings held in a calendar year shall be a specific cause for removal from the membership.

2.5 **Resignation:** A member may resign by delivering written resignation to the chairman, vice-chairman, secretary/treasurer of the Regional Committee or to a meeting of the members.

2.6 **Annual Meetings:** The annual meeting of the members shall be held at a location to be determined, each year after the adoption date of this document, within one month of the anniversary date. If an annual meeting is not held as herein provided, a special meeting of the members may be held in place thereof with the same force and effect as the annual meeting, and in such case all references in these bylaws, except in this Section 2.6, to the annual meeting of the members shall be deemed to refer to such special meeting. Any such special meeting shall be called and notice shall be given as provided in Section 2.7 and 2.8.

2.7 **Special Meetings:** Special meetings of the members may be held at any time and at any place within the Regional Committee area. Special meetings of the members may be called by the chairman or by the vice-chairman, or in case of death, absence, incapacity, by any other officer or, upon written application of two or more members.

2.8 **Call and Notice:**

A. Annual meetings: Reasonable notice of the time and place of all meetings shall be given to each member. Such notice need not specify the purposes of a meeting, unless otherwise required by law or these bylaws or unless there is to be considered at the meeting (i) amendments to these bylaws, (ii) an increase or decrease in the number of members, or (iii) removal or suspension of a member who is an officer.

B. Reasonable and sufficient notice: Except as otherwise expressly provided, it shall be reasonable and sufficient notice to a member to send notice by mail at least ten business days or by e-mail/facsimile at least ten business days before the meeting, addressed to such member at this or her usual or last known business address, or, to give notice to such member in person or by telephone at least ten business days before the meeting.

2.9 **Quorum:** A quorum is defined as a majority of the voting members present and any members represented by proxies. At any official meeting of the members, a majority of the voting members shall constitute a quorum.

2.10 **Action by Vote:** Each voting member, representing a particular agency (one vote per agency) shall have one vote; non-voting members have no right to vote. When a quorum is present at any meeting, a majority of the votes properly cast by voting members present shall decide any question, including election to any office, unless otherwise provided by law or these bylaws.

2.11 **Action by Writing:** Any action required or permitted to be taken at any meeting of the members may be taken without a meeting if all members entitled to vote on the matter consent to the action in writing[15] and the written consents are filed with the records of the meetings of the members. Such consents shall be treated for all purposes as a vote at a meeting.

2.12 **Proxies:** Voting members may vote either in person or by written proxy[16] dated not more than one month before the meeting named therein, which proxies shall be filed before being noted with the secretary or other person responsible for recording the proceedings of the meeting. Unless otherwise specifically limited by their terms, such proxies shall entitle the holders thereof to vote at any adjournment of the meeting by the proxy shall terminate after the final adjournment of such meeting.

2.13 **Voting on One's Own Application:** At no time shall a voting member vote on his/her application.

2.14 **Special Interest Voting:** A voting member cannot have a commercial interest in any of his/her region and/or adjacent regions application(s) on which he/she is reviewing, approving and/or voting.

2.15 **Digital / Remote Attendance**. The Regional Planning Committee will make, to the best of the Region's ability as resources are available, access available to members and interested parties via teleconference. All regular meetings will, whenever possible, be accessible via a teleconference bridge. Members present via teleconference will be recorded as being on-line as opposed to in-person and will have the right to vote, comment and participate as those members present. For any vote that is not unanimous, a roll call vote all members present via teleconference will be taken.

[15] "In writing" shall include email (with receipt) retained and filed by the Secretary/Treasurer.

[16] "Written proxy" shall include email (with receipt) retained and filed by the

Secretary/Treasurer. Proxies will be voted by the Vice Chairman.

ARTICLE III
OFFICERS AND AGENTS

3.1 **Number and Qualification:** The officers of the Regional Committee shall be a Chairman, Vice-Chairman, Secretary/Treasurer, all Committee Chairs, and such other officers, if any, as the voting members may determine. All officers must be voting members of the Regional Committee.

3.2 **Election:** The officers shall be elected by the voting members at their first meeting and, thereafter, at the annual meeting of the members.

3.3 **Tenure:** The officers shall each hold office until the annual meeting of the members held within one year from the adoption of these bylaws, or until their successor, if any, is chosen, or in each case until he or she sooner dies, resigns, is removed or becomes disqualified.

3.4 **Chairman and Vice Chairman:** The Chairman shall be the chief executive officer of the Regional Committee and, subject to the control of the voting members, shall have general charge and supervision of the affairs of the Regional Committee. The Chairman shall preside at all meetings of the Regional Committee.

The Vice Chairman shall have such duties and powers, as the voting members shall determine. The Vice-Chairman shall have and may exercise all the powers and duties of the Chairman during the absence of the chairman or in the event of his or her inability to act.

3.5 **Secretary/Treasurer:** The Secretary/Treasurer shall be the chief financial officer and the chief accounting officer of the Regional Committee. The Secretary/Treasurer shall be in charge of its financial affairs, funds, and valuable papers and shall keep full and accurate records thereof. The Secretary/Treasurer shall record and maintain records of all proceedings of the members in a file or series of files kept for that purpose, which file or files shall be kept within the Region and shall be open at all reasonable times to the inspection of any member. Such file or files shall also contain records of all meetings and the original, or attested copies, of bylaws and names of all members and the address (including e-mail address, if available) of each. If the Secretary/Treasurer is absent from any meeting of the members, a temporary Secretary/Treasurer chosen at the meeting shall exercise the duties of the secretary at the meeting.

3.6 **Suspension or Removal:** An officer may be suspended with cause by vote of a majority of the voting members.

3.7 **Committees:** Sub-Committees shall be appointed by the Chairman. They shall consist of the Operational Committee, the Technical Committee, and the Regulatory Committee. Other Committees may be added at the discretion of the Chairman. All Committee Chairs will sit as voting members of the Executive Committee.

3.8 **Resignation:** An officer may resign by delivering his or her written resignation to the Chairman, Vice-Chairman, or Secretary/Treasurer of the Regional Committee. Such resignation shall be effective upon receipt (unless specified to be effective at some other time), and acceptance thereof shall not be necessary to make it effective unless it so states.

3.9 **Vacancies:** If the position of any officer becomes vacant, the voting members may elect a successor. Each such successor shall hold office for the remainder terms and in the case of the Chairman, Vice Chairman, and Secretary/Treasurer until his or her successor is elected and qualified, or in each case until he or she sooner dies, resigns, is removed or become disqualified.

ARTICLE IV
AMENDMENTS

4.1 The voting members may by a two-thirds vote, alter, amend, or repeal any bylaws adopted by the Regional Committee members or otherwise adopt, alter, amend or repeal any provision which FCC regulation or these bylaws requires action by the voting members.

ARTICLE V
DISSOLUTION

5.1 This Regional Committee may be dissolved by the consent of two-thirds plus one of the members in good standing at a special meeting called for such purpose. The FCC shall be notified.

ARTICLE VI
RULES OF PROCEDURES

6.1 The Conduct of Regional Meetings including without limitation, debate, voting and any other issue not covered by the Bylaws, shall be governed by Robert's Rules of Order, newly revised 1990 edition, ninth edition, Sarah Corbin Robert, Henry M. Robert III, and William J. Evans.

Appendix B - Region 28 Member List and Contact Information At the Time of Adoption of the 700 MHz Plan

REGION 28 - 700 MHz PLANNING COMMITTEE MASTER ATTENDANCE LIST								
#	Name	Agency Name	Business Address	City	ST	ZIP Code	Phone No.	E-mail address
1	Albright, Frank	V-COMM, L.L.C.	1730 Walton Road, Suite 100	Blue Bell	PA	19422	610-684-1000	frank.albright@vcomm-eng.com
2	Arney, Bob	SSI Services	2578 Interstate Dr. Suite 100	Harrisburg	PA	17110	717-541-8630	rarney@vanadium.com
3	Bailey, Laurie	Lehigh County 9-1-1	455 W. Hamilton Street	Allentown	PA	18101-1614	610-782-3087	lauriebailey@lehighcounty.org
4	Bailey, W. Michael	City of Wildwood	4400 New Jersey Ave.	Wildwood	NJ	08260	609-780-6228	mbailey@wildwoodnj.org
5	Barbolish, Richard	Lackawanna Co 9-1-1	30 Valley View Business Park	Jessup	PA	18434-1147	570-963-6700	barbolishr@lackawannacounty.org
6	Barsuglia, Jim	NJ State Police	PO Box 7068	Trenton	NJ	06828	609-882-2000 x2755	lppbarsj@gw.njsp.org
7	Beatty, Allen	MACRO Corp	4377 County Line Rd.	Chalfont	PA	18914	215-997-5100	abeatty@macro.com
8	Bellesfield, Daniel	Lehigh County 9-1-1	455 West Hamilton St.	Allentown	PA	18101	610-782-3047	danbellesfield@lehighcounty.org
9	Bogari, Thomas	City Of Bethlehem	10 E. Church St.	Bethlehem	PA	18010	610-865-7187	bethlehem911c515@verizon.net
10	Boligitz, Lisa	TuWay	2115 City Line Rd.	Bethlehem	PA	18017	610-865-3811	boligitz@tuway.com
11	Brackin, Judith	Chester Co DES	601 Westtown Road Suite 012, P.O. Box 2747	West Chester	PA	19380	610-344-5047	jbrackin@chesco.org
12	Breneiser, Craig	Berks County	633 Court St. 17th Floor Courthouse	Reading	PA	19601	610-655-4906	cbreneiser@countyofberks.com

13	Bruno, Robert	Ocean County	P.O. Box 2191	Toms River	NJ	O8754	732-288-7844	rbruno@co.ocean.nj.us
14	Bryson, Charles	RCC Consultants	4900 Cox Rd Suite 235	Glen Allen	VA	23060	804-301-1123	cbryson@rcc.com
15	Carrow, William	Delaware State Police	165 Brick Store Landing Rd	Smyrna	DE	19977	302-659-2340	bill.carrow@state.de.us
16	Caulfield, Eugene	Motorola	85 Harristown Rd.	Glen Rock	NJ	07452	201-447-7584	eugene.caulfield@motorola.com
17	Coltri, Norman	RCC Consultants	P. O. Box 186	Midland Park	NJ	07432	609-654-8196	ncoltri@rcc.com
18	Connor, Richard	Camden Co DPS	2311 Egg Harbor Road, Bldg # 18	Lindenwold	NJ	08021	856-783-4808	rconnor@camdencounty.com
19	Cordani, Clifford	Amtrak Police	30th St. Station/8th Floor Box #38	Philadelphia	PA	19104	215-349-2801	cordanc@amtrak.com
20	Dalton, Paul	Ocean Co Wireless	138 Chestnut St. Bld. 30	Toms River	NJ	08753	732-288-7206	pdalton@co.ocean.nj.us
21	Defalco, Carmine	NJ Transit	One Penn Plaza East	Newark	NJ	07105-2246	973-491-7959	cdefalco@njtransit.com
22	Defazio, Frank	Motorola	85 Harristown Rd.	Glen Rock	NJ	07452	201-447-7582	frank.defazio@motorola.com
23	Dubas, Thomas	Lackawanna Co 9-1-1	30 Valley View Business Park	Jessup	PA	18434	570-307-7300	dubast@lackawannacounty.org
24	Elmer, Don	Camden Co DPS	2311 Egg Harbor Road, Bldg # 18	Lindenwold	NJ	08021	856-783-4808x5420	elmer@camdencounty.com
25	Esposito, Tony	Gloucester County	1200 N. Delsea Dr.	Clayton	NJ	08312	856-307-7100	aesposito@co.gloucester.nj.us
26	Faramell, Bruce	Lackawanna Co 9-1-1	30 Valley View Business Park	Jessup	PA	18434	570-963-6700	faramellb@lackawannacounty.org
27	Gates, Robert	State of Delaware - DIVCOMM	3050 Upper King Road	Dover	DE	19904	302-697-4486	robert.gates@state.de.us
28	Getsinger, Mark	NJ State Police	PO Box 7068	Trenton	NJ	06828	609-882-2000x2603	lppgetsm@gw.njsp.org

29	Groce III, M. Jay	Chester Co DES	601 West Town Rd.	West Chester	PA	19382	610-344-5084	mgroce@chesco.org
30	Heiser, Clint	Tyco Electronics M/A -Com	Mail Stop 161-065 PO Box 3608	Harrisburg	PA	17105-3608	717-565-1237	heiserc@tycoelectronics.com
31	Imszennik, Steve	Philly Fire	240 Spring Garden St	Philadelphia	PA	19123	215-686-1387	stephen.imszennik@phila.org
32	Kruzik, Mary	Carbon County	1264 Emergency Lane	Nesquehoning	PA	18240	570-325-9111	cc911mpk@ptd.net
33	Lepore, Jim	Motorola	1355 Laurel Blvd	Lanoka Harbor	NJ	08734	609-618-5597	jim.lepore@motorola.com
34	Leto, Charles (Keith)	Radio Proj Office	2605 Interstate Drive, Suite 140	Harrisburg	PA	17110-9364	717-772-8024	cleto@state.pa.us
35	Lohwasser, Richard	Montgomery Co	50 Eagleville Rd.	Eagleville	PA	19403	610-631-6542	rlohwass@montcopa.org
36	Lyons, Margaret	RCC Consultants	100 Woodbridge Center Dr #201	Woodbridge	NJ	07095-1125	732-404-2476	mlyons@rcc.com
37	Magee, Jim	M/A -Com	27 Raintree Dr.	Sicklerville	NJ	08081	609-841-4090	mageeji@tycoelectronics.com
38	Mazziotta, Matt	Motorola	5 Paragon Dr. Suite 200	Montvale	NJ	07645	856-719-8370	matt.mazziotta@mot.com
39	Melia, Anthony	Essex County Sheriff's Office	50 West Market Street	Newark	NJ	07102	973-395-2567	meliaa@apco911.org
40	Mill, Frederick	City Of Bethlehem	10 E. Church St.	Bethlehem	PA	18010	610-865-7155	millfred@bethlehem.pa.gov
41	Moore, John	NJ DOC	PO Box 863	Trenton	NJ	08625	609-777-5638	johnh.moore@doc.state.nj.us
42	Moyer, Bob	Lancaster County	PO Box 487	Manheim	PA	17545	717-664-1100	rmoyer@lcwr.co.lancaster.pa.us
43	Hatfield, Troy	Lancaster County	PO Box 487	Manheim	PA	17545	717-664-1100	hatfieldt@lcwr.co.lancaster.pa.us
44	Murdoch, David	Dauphin County	911 Gibon Blvd	Steelton	PA	17113	717-558-6800	dmurdoch@dauphinc.org

45	Nestor, Joanne (Jody)	NJ AG's Office	PO Box 080	Trenton	NJ	08625	609-984-2717	jody.nestor@lps.state.nj.us
46	Pedersen, Robert	State of Delaware - DIVCOMM	3050 Upper King Road	Dover	DE	19904	302-739-4207	robert.pedersen@state.de.us
47	Perez, Felix	Amtrak Police	30th St. Station/8th Floor Box #38	Philadelphia	PA	19104	215-349-1250	perezf@amtrak.com
48	Perkins, Brad	MWF Enterprises	PO Box 6597	Harrisburg	PA	17112	717-873-3887	brad@mwfenterprises.com
49	Quinlan, John	NJ State Police	1 River Rd.	West Trenton	NJ	08626	609-882-2000x2514	lpp5089@gw.njsp.org
50	Resetar, Robert	NJ EMS	DHSS/OEMS, 6th Floor, P.O. Box 360	Trenton	NJ	08625	866-633-8648	rresetar@monoc.org
51	Reynolds, Richard	State of Delaware - DTI	801 Silver Lake Blvd	Dover	DE	19904-2407	302-739-9648	richard.reynolds@state.de.us
52	Rinehart, Bette	Motorola	28 Twin Lakes Dr.	Gettysburg	PA	17325	717-334-0654	c18923@email.mot.com
53	Scarpa, Kevin	Borough of Avalon	3100 Dune Dr.	Avalon	NJ	08202-1706	609-967-5915	k.scarpa@comcast.net
54	Shelton, Jim	V-COMM, L.L.C.	1730 Walton Road, Suite 100	Blue Bell	PA	19422	610-684-1000	jim.shelton@vcomm-eng.com
55	Short, T. Fred	Special System Services	100 Mahogany Way	Upper Gwynedd	PA	19446	215-699-4427	sssconsulting@verizon.net
56	Shuler, Thomas	Lancaster County	826 N. Lewis Road, Suite 3	Limerick	PA	19468	610-495-0844	tom.shuler@ssiservices.com
57	Sindorf, Tim	Motorola	PO Box 1335	Burlington	NJ	08016	609-239-4289	tim.sindorf@motorola.com
58	Smith, Gary	Radio Maint Inc	1840 Kutz Town	Reading	PA	19604	610-914-0846	gsmith@rmimail.net
59	Stern, David	V-COMM, L.L.C.	3 Cedarbrook Drive	Cranbury	NJ	08512-3614	609-655-1200 x323	david.stern@vcomm-eng.com
60	Strunk, Jeff	Monroe County	100 Gypsum Rd Suite 2	Stroudsburg	PA	18360	570-992-4500	jstrunk@monroeco911.com

61	**Szalajeski, Jim**	**LR Kimball & Assoc**	**615 West Highland Ave.**	**Ebensburg**	**PA**	**15931**	**804-262-0300**	**jamesszalajeski@lrkimball.com**
62	**Tallman, Dennis**	**Teletron Corp**	**6845 Westfield Ave.**	**Pennsauken**	**NJ**	**08110**	**856-665-4400 x220**	**dennis1340@snip.net**
63	**Velez, Ed**	**NJ Transit**	**180 Boyden Ave**	**Maplewood**	**NJ**	**07040**	**973-378-6579**	**evvelez@njtransit.com**
64	**Villecco, Dominic**	**V-COMM, L.L.C.**	**3 Cedarbrook Drive**	**Cranbury**	**NJ**	**08512-3614**	**609-655-1200**	**dominic.villecco@vcomm-eng.com**
65	**Weaver, Mike**	**Lancaster County**	**PO Box 487**	**Manheim**	**PA**	**17545**	**717-664-1100**	**mweaver@lcwc.co.lancaster.pa.us**
66	**Williams, Gary**	**Carbon County**	**1264 Emergency Lane**	**Nesquehoning**	**PA**	**18240**	**570-325-9123**	**cc911glw@hotmail.com**
67	**Zellhart, Mike**	**SSI**	**2578 Interstate Dr. Suite 100**	**Harrisburg**	**PA**	**17110**	**717-541-8630**	**hzellhart@vanadium.com**

Appendix C - List of Counties within Region 28

State	City/County	Population
Delaware	Kent County	143,968
	New Castle County	523,008
	Sussex County	176,548
New Jersey	Atlantic County	271,620
	Burlington County	450,627
	Camden County	517,001
	Cape May County	97,724
	Cumberland County	154,823
	Gloucester County	282,031
	Ocean County	562,335
	Salem County	66,595
Pennsylvania	Berks County	401,149
	Bradford County	62,471
	Bucks County	623,205
	Carbon County	62,567
	Chester County	482,112
	Columbia County	65,014
	Dauphin County	254,176
	Delaware County	555,996
	Lackawanna County	209,728
	Lancaster County	494,486
	Lebanon County	126,883
	Lehigh County	335,544
	Luzerne County	313,020
	Lycoming County	117,668
	Monroe County	165,685

State	City/County	Population
	Montgomery County	775,688
	Montour County	17,934
Pennsylvania	Northampton County	291,306
	Northumberland County	91,654
	City of Philadelphia	1,479,339
	Pike County	58,195
	Schuylkill County	147,405
	Sullivan County	6,277
	Susquehanna County	41,889
	Tioga County	41,137
	Wayne County	50,929
	Wyoming County	28,093
	York County	416,322

PUBLIC NOTICE

News media information 202 / 418-0500
Fax-On-Demand 202 / 418-2830
TTY 202 / 418-2555
Internet: http://www.fcc.gov
ftp.fcc.gov

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

DA 04-1138
April 28, 2004

WIRELESS TELECOMMUNICATIONS BUREAU ACTION

REGION 28 (EASTERN PENNSYLVANIA) 700 MHz PUBLIC SAFETY PLANNING COMMITTEE ANNOUNCES PLANNING MEETING

The Region 28 (Eastern Pennsylvania, Southern New Jersey and Delaware) 700 MHz Public Safety Planning Committee announces that the first planning meeting will be held on Thursday, June 24, 2004. The meeting will start at 10:00 a.m. at the Philadelphia Fire Academy, 5200 Pennypack Street, Philadelphia, Pennsylvania. The purpose of the meeting is to elect a chairperson and appoint a planning committee to begin the development of the Region 28 – 700 MHz Plan.

The Region 28 700 MHz Public Safety Planning Committee meeting is open to the public. All eligible public safety providers whose sole or principal purpose is to protect the safety of life, health, or property in Region 28 would utilize these frequencies. It is essential that not only public safety, but all government, Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Commission's Rules be represented in order to ensure that each agency's future spectrum needs are considered in the allocation process. Administrators who are not oriented in the communications field should delegate someone with this knowledge to attend, participate and represent their agency's needs.

All interested parties wishing to participate in the planning for the use of new public safety spectrum in the 700 MHz band within Region 28 are encouraged to attend. For further information, please contact:

Richard R. Reynolds, Convener
Region 28, 700 MHz Public Safety Planning Committee
State of Delaware, Dept of Technology & Information
801 Silver Lake Boulevard
Dover, Delaware 19904-2407

PH: 302-739-9648
FX: 302-739-9642
Cellular: 302-242-5398
Email: Richard.Reynolds@state.de.us

– FCC –

REGION 28 – 700 MHz Regional Plan Committee

EASTERN PENNSYLVANIA, SOUTHERN NEW JERSEY, and DELAWARE

#	LAST NAME	FIRST NAME	AGENCY NAME	STATE	PHONE No.	E-MAIL ADDRESS
1	Reynolds	Richard	ST. OF DE - DTI	DE	302-739-9648	Richard.Reynolds@state.de.us
2	Carow	William	Del State Police	DE	302-659-2540	Bill.Carow@state.de.us
3	Moore	John	NJ DOC	NJ	609 777 1038	John.K.Moore@doc.state.nj.us
4	Boligitz	Lisa	TuWay Communications	PA	610 865 3811	boligitz@tuway.com
5	Stemic	Jeff	Monroe County Control	PA	570-992-4500	jstemic@monroeco911.com
6	Williams	Gary	Carbon County	PA	5703259123	cc911glw@Hotmail.com
7	Murdoch	David	Dauphin county	PA	717-558-6800	dmurdoch@dauphinpc.org
8	Zellhart	Mike	SSF	Pa	717-541-8850	hzellhart@keystonian.com
9	Bailey	Laurie	Lehigh County 911	PA	610 782 3087	lauriebailey@lehighcounty.org
10	Mazziotta	Matt	Motorola	NJ	856-719-8370	matt.mazziotta@mot.com
11	Sherrill	Nicole	Motorola	NJ	856-487-4169	nicole.sherrill@motorola.com
12	North	John	DATARADIO	GA	770-392-0002	JNORTH@DATARADIO.com
13	Resetar	Robert	NJ EMS Comm Committee MONOC	NJ	732-5789800	RResetar@MONOC.ORG
14	Bruno	Robert	Ocean County	NJ	732-288-7244	rbruno@co.ocean.nj.us
15	Stern	David	V-COMM	NJ	609 655 1700	david.stern@vcomm-eng.com
16	Lyons	Margaret	RCC Consultants, Inc	NJ	732 964 2476	mlyons@rcc.com
17	DeFazio	Frank	Motorola	NJ	201-442-7582	frank.defazio@motorola.com
18	Grace	M. Jay	Chester Co DES	PA	610-344-5084	mgrace@chesco.org
19	Brackin	Judith	" "		610-344-5047	jbrackin@chesco.org
20	Beatty	Allen	Macro Corp	PA	215-997-5100	ABeatty@MACROCORP.com
21	Coltri	Norm	RCC Consultants	NJ	609 654 8196	ncoltri@rcc.com
22	Connor	Richard	Camden County DPS	NJ	856-783-4808	rconnor@camdencounty.com
23	Lezenby	Charles	Camden County DPS	NJ	856-283-4808	clezenby@camdencounty.com
24	Mizia	Anthony	Essex Cty/AG's Off	NJ	973-621-4170	MiziaA@APCO911.org
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REGION 28 – 700 MHz Regional Plan Committee

EASTERN PENNSYLVANIA SOUTHERN NEW JERSEY, and DELAWARE

#	LAST NAME	FIRST NAME	AGENCY NAME	STATE	PHONE No.	E-MAIL ADDRESS
1	Imszennik	Steve	Phila Fire	PA	2156861387	Stephen.Imszennik@Phila.org
2	Bailey	Michael	City of Wildwood	NJ	609-729-6228	MBailey@WildwoodNJ.org
3	Szalajeski	Jim	L.R. Kimball Assoc	PA	304-262-0300	Jmszalajeski@lrkimball.com
4	Esposito	Tony	Gloucester County	NJ	856 307-7100	AADrship@Co.gloucester.nj.us
5	Lehwasser	Richard	Montgomery Co	PA	610-631-6542	rlehwasser@mail.montcopa.org
6	Dubas	Thomas	Lackawanna Co. 911	PA	570 963 6700	dubast@lackcommcounty.org
7	Barbulesh	Richard	" "	"	" "	barbulesh@lackcommcounty.org
8	Lezenby	Charles	Camden County Comm	NJ	856-783-4608	clezenby@Camdencounty.com
9	Bogazz	Thomas	City of Bethlehem	PA	610 365 7187	bethlehem911csis@verizon.net
10	Tallman	Dennis P	Telecrad Corp	NJ	(856)665-9400 x224	dennis1310@snip.net
11	Leto	Charles "Keith"	Radio Proj Office Commonwealth of PA	PA	717-772-8024	cleto@state.pa.us
12	Getsinger	Mark	N.J.S.P.	NJ	609 882 2000 x2603	Getsinger.mark@GW.NJSP.ORG
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REGION 28/700 MHz REGIONAL
PLANNING COMMITTEE MEETING
JUNE 24, 2004

Attendee List: attached

Welcome and Introduction:

Richard Reynolds gave a brief introduction of the committee members for Region 28 and explained the Region 28 process in convening the 700 MHz Regional Planning Meeting.

Richard Reynolds announced that Judith Brackin, present secretary for Region 28 had agreed to take the minutes for this meeting but was not interested in being secretary for the 700 Planning Committee. This position will be filled later in the meeting as we vote to fill the new Board Positions.

Bette Rinehart, Editor of "The Communicator" gave a Power Point presentation on regulatory issues and the background on the 700 MHz band

Open discussion took place on what was needed in the plan, and the Election of Officers process.

Richard Reynolds opened the floor for nominations from the floor which resulted in the following Board Members being voted in:

Chairman: Richard Reynolds/ State of Delaware
Vice Chair: Raymond Hayling, II / NJ AG Office
Secretary: Laurie Bailey /Lehigh Co, PA
Treasurer: Will be held by the PA APCO Chapter Treasurer

Operation Committee: Bylaws and RPC Plan, Rick Lohwasser/ Montgomery Co PA, Dennis Tallman/Teltron Corp, Michael Bailey/Wildwood, NJ

Regulatory Committee: FCC Filing for RPC Plan, etc., Respond to FCC Dockets and comment, etc: Craig Breneiser/ Berks Co, PA, Paul Keller/ WLVT-TV Barry Fisher/Channel 69

Technical Committee: Application review for technical accuracy, etc, application conflict resolution: David Stern/Vcomm, Richard Connor/NJ, Mark Getsinger/NJSP, Robert Moyer/Lancaster Co, PA, Robert Bruno/ Ocean Co, NJ and the tri-state APCO Frequency Advisors.

AGENDA items for the next meeting:

Adoptions of Bylaws- Presentation by Operation Committee

Begin process of Draft Plan

The next meeting will be announced when determined by the new board.

PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

News media information 202 / 418-0500
Fax-On-Demand 202 / 418-2830
TTY 202 / 418-2555
Internet: http://www.fcc.gov
ftp.fcc.gov

DA 06-1034
May 16, 2006

WIRELESS TELECOMMUNICATIONS BUREAU ACTION

REGION 28 (EASTERN PENNSYLVANIA) PLANNING COMMITTEES
TO HOLD
700 MHz PUBLIC SAFETY REGIONAL PLANNING COMMITTEE MEETING
AND
800 MHz PUBLIC SAFETY REGIONAL PLANNING COMMITTEE MEETING
(General Docket 89-573)

The Region 28 (Eastern Pennsylvania, Southern New Jersey and Delaware) Regional Planning Committees will hold two consecutive Region 28 Public Safety Planning meetings.

On Thursday, June 15, 2006, the Region 28 700 MHz Regional Planning Committee meeting will convene at 10:00 a.m. at the Camden County Fire Academy, Woodbury-Turnersville Road, Blackwood, New Jersey 08012. The purpose of the meeting is to review the draft By-Laws and appoint the working committees to start to lay out the 700 MHz Plan structure. A lunch break from 12:30 p.m. until 2:00 p.m. will follow this meeting.

On Thursday, June 15, 2006, the Region 28 800 MHz Regional Planning Committee annual meeting will convene at 2:00 p.m. at the Camden County Fire Academy, Woodbury-Turnersville Road, Blackwood, New Jersey 08012. The purpose of this meeting is to review the current 800 MHz activity within Region 28, along with a progress update on the rebanding process.

Both of the Region 28 Public Safety Regional Planning Committee meetings are open to the public. All eligible public safety providers whose sole purpose or principal purpose is to protect the safety of life, health, or property within Region 28 may utilize these frequencies. It is essential that not only public safety, but all government, Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Federal Communications Commission's Rules be represented in order to ensure that each agency's future spectrum needs are considered in the allocation process. Administrators who are not conversant with telecommunications technology should ensure that their respective agencies are represented suitably conversant staff.

All interested parties wishing to participate in the planning for use of public safety

spectrnm in the 700 MHz and 800 MHz bands within Region 28 are encomaged to attend. For further information, please contact:

Richard R. Reynolds, Chainnan
Region 28, 700 MHz Public Safety RPC &
Region 28, 800 MHz Public Safety RPC
Department of Technology and Information
801 Silver Lake Boulevard
Dover, Delaware 19904-2407
PH: 302-739-9648
FX: 302-739-7243
Email: Richard.Reynolds@state.de.us

Or

Raymond Hayling, III, Region 28 Vice Chair, 700 MHz
Executive Director
State of New Jersey
Office of the Attorney General
Justice Complex
25 Market Street
P. 0. Box 081
Trenton, New Jersey 08625
PH: 609-984-6995 or 609-984-0089
FX: 609-633-0557
Raymond.haylirnz@lps.state.nj.us

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PLEASE PRINT

June 14, 2006

State of New Jersey Office of the Attorney General	Raymond J. Hayling, II	609-984-6995	raymond.hayling@lps.state.nj.us	Justice Complex 25 Market Street Trenton, Nj 08625 P O Box 081
State of New Jersey Office of the Attorney General	William J. Finnegan	609-633-9092	william.finnegan@lps.state.nj.us	Justice Complex 25 Market Street Trenton, Nj 08625 P O Box 081
State of New Jersey Office of the Attorney General	Joanne E. Nestor	609-984-2717	jody.nestor@lps.state.nj.us	Justice Complex 25 Market Street Trenton, Nj 08625 P O Box 081
t frlotwri/	Matt Mazziotta	856-719-8370	matt.mazziotta@mot.com	z'- l.J;Ilc,..,Pf rq.j_ P,./:n NJ" OR'OO 1
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June 14, 2006

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AGENCY	REPRESENTATIVE	PHONE #	E-MAIL ADDRESS	MAILING ADDRESS
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700 MHz Public Safety Planning Committee
Region 28 – Pennsylvania - Eastern
Camden County Fire Academy
Woodbury-Turnersville Road, Blackwood, NJ 08012
June 14, 2006
10:00 a.m. – 1:30 p.m.

CALL TO ORDER

On a motion made by Chairman Richard Reynolds and seconded by Vice Chairman Raymond Hayling, the meeting was called to order at 11:00 a.m. The meeting was held in the Camden County Fire Academy, Woodbury-Turnersville Road, Blackwood, New Jersey.

ROLL CALL

Chairman: Richard Reynolds - Present Vice
Chairman: Raymond Hayling - Present
Secretary: Laurie Bailey - Absent Alternate: Jody Nestor
Operational Committee Chairman: Mike Bailey - Present
Technical Committee Chairman: Bob Moyer – Absent
Regulatory Committee Chairman: Craig Breneiser - Present

The attendance sheet was passed around to members and is attached. The Agenda and a copy of the Draft Bylaws were given out to those in attendance.

APPROVAL OF AGENDA

A motion was made by Vice Chairman Hayling and seconded by William Finnegan; the Agenda was approved as presented.

AGENDA

Review Agenda

Review Draft Bylaws

Appointment of Working Committees

REVIEW DRAFT OF BYLAWS

ARTICLE I – NAME & PURPOSE

Section 1.1 Name and purpose
Add the definition of Region 28 - "Region 28, as now defined by the FCC is the entire

State of Delaware, specifically the counties of New Castle, Kent and Sussex. The southern portion of the State of New Jersey, namely that area south of a division line that follows the northern border of Burlington County and the southern border of Monmouth County. Specifically, the counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Ocean and Salem. Pennsylvania is divided into two regions. The West Branch Susquehanna River is basically the dividing line. Specifically the counties of Bradford, Berks, Bucks, Carbon, Chester, Columbia, Dauphin, Delaware, Montgomery, Philadelphia, Lehigh, Northampton, Lackawanna, Lancaster, Lebanon, Luzerne, Lycoming, Monroe, Montour, Northumberland, Pike, Schuylkill, Sullivan, Susquehanna, Tioga, Wayne, Wyoming and York."

ARTICLE II – MEMBERS

Section 2.1 Numbers, Election and Qualification

A. Voting Members

Insert "within Region 28" after "single agency engaged in public safety"

B. Non-Voting Members

Add this sentence, "APCO Frequency Coordinators are default members of Region 28 and are members of the Technical Committees."

Section 2.2 Tenure – NO CHANGE

Section 2.3 Powers and Rights – NO CHANGE

Section 2.4 Suspensions and Removal – NO CHANGE

Section 2.5 Resignations – NO CHANGE

Section 2.6 Annual Meeting

Change "on the anniversary date of the adoption of the plan each year" to "within a month of the anniversary date of the adoption of the plan each year".

Remove the phrase, "or if that date is a legal holiday in the place where the meeting is to be held, then at the same hour on the next succeeding day not a legal holiday".

Section 2.7 Special Meetings – NO CHANGE

Section 2.8 Calls and Notice

A. Annual meetings:

Change the word "special" meeting to "all" meetings.

B. Reasonable and sufficient notice:

Change the word "five" days to "10 business" days

Change the word "three" days to "10 business" days

Section 2.8 Quorums

Change Section "2.8" Quorum to "2.9" Quorum

Section 2.9 Quorums

After the phrase "At any meeting of the members" change "a majority of the officers and {either a minimum number of members or a minimum percentage of members}" to "which must include the chairman or vice chairman and 51% of the members or at least one representative from each state".

Section 2.9 Actions by Vote
Change Section "2.9" Action by Vote to "2.10" Action by Vote

Section 2.10 Action by Writing
Change Section "2.10" Action by Writing to "2.11" Action by Writing

Section 2.11 Action by Writing
At the end of the paragraph add, "Votes by members via email should be directed to the Region 28 Secretary/Treasurer. The Secretary/Treasurer will retain a paper copy of the email for the records."
Add a footnote with the definition of "Action by Writing". "Action by Writing – facsimile, paper note, letter, email or other direct forms of communication."

Section 2.11 Proxies
Change Section "2.11" Proxies to "2.12" Proxies

Section 2.12 Proxies
At the end of the paragraph add, "Votes by members via email should be directed to the Region 28 Secretary/Treasurer. The Secretary/Treasurer will retain a paper copy of the email for the records."

Section 2.12 Voting on One's Own Application
Change Section "2.12" Voting on One's Own Application to "2.13" Voting on One's Own Application

Section 2.13 Voting on One's Own Application
Change the word "shell" to "shall".

Section 2.13 Special Interest Voting
Change Section "2.13" Special Interest Voting to "2.14" Special Interest Voting

ARTICLE III – OFFICERS AND AGENTS
Section 3.1 Numbers and Qualification
Change the words "treasurer, secretary" to "secretary/treasurer"
Add "and these officers shall constitute the executive committee." to the last sentence in the paragraph.

Section 3.2 Elections – NO CHANGE
Section 3.3 Tenure – NO CHANGE

Section 3.4 Chairmen and Vice Chairman

In the second paragraph remove the words, “if any” after “The Vice Chairman”.

Section 3.5 Treasurers
This section should be combined with Section 3.6 Secretary and be titled Section 3.5 Secretary/Treasurer and to read as follows, “The secretary/treasurer shall be the chief financial officer and the chief accounting officer of the Regional Committee. The secretary/treasurer shall be in charge of its financial affairs, funds, and valuable papers and shall keep full and accurate records thereof. The secretary/treasurer shall record and maintain records of all proceedings of the members in a file or series of files kept for that purpose, which file or files shall be kept within the Region and shall be open at all reasonable times to the inspection of any member. Such file or files shall also contain records of all meetings and the original, or attested copies of bylaws and names of all members and the address (including email address, if available) of each. If the secretary/treasurer is absent from any meeting of members, a temporary secretary chosen at the meeting shall exercise the duties of the secretary at the meeting.

Section 3.6 Secretaries
This section should be combined with Section 3.5 (See above) and insert a new “Section 3.6 Subcommittees”

Section 3.6 Subcommittees (New Section).
This section will read as follows:
Section 3.6 Subcommittees
Definition of Subcommittees will be structured similar to Region 8‘s definition in their Bylaws. Vice Chairman Hayling will provide copy..
Technical Committee & technical review
Regulatory Committee
Operations Committee

Section 3.7 Suspensions or Removal- NO CHANGE

Section 3.8 Resignations
Change the phrase “treasurer, or secretary” to “secretary/treasurer”

Section 3.9 Vacancies
Change the phrase “vice chairman, treasurer and clerk” to “vice chairman, and secretary/treasurer”

ARTICLE IV – ADMENDMENTS
Change the phrase These bylaws “may” be altered, to These bylaws “shall” be altered.

ARTICLE V – DISSOLUTION
NO CHANGE

ARTICLE VI – RULES OF PROCEDURE
Add to the end “and anything not covered by the bylaws”.

Chairman Reynolds said that after Mike Bailey makes the changes that were discussed at today's meeting to the Bylaws, the members would vote and adopt the Bylaws at the next membership meeting.

Mike Bailey said that he would make the changes to the Bylaws and send out a draft copy to all members before the next meeting.

APPOINTMENT OF WORKING COMMITTEES

Chairman Reynolds said that he would send out a copy of the Plan document via email. He asked that all of the members review each section in order to determine which sections might fit with each committee. He said that the members would discuss the appointment of the Working Committees at the next meeting.

ADDITIONAL DISCUSSIONS

Chairman Reynolds is a committee member of New York State Technology Enterprise Corporation (NYSTEC). At a recent meeting, he learned that there is federal grant money available through NYSTEC for regions outside of New York to use in order to develop their 700MHz Plan. Reimbursements will be handled between the individual and the Secretary/ Treasurer. The Committee Chairman must then approve all reimbursements. Chairman Reynolds said that he would distribute the funding documents and funding policy from (NYSTEC).

Chairman Reynolds discussed the possibility of changing change Secretary Laurie Bailey's title from Secretary to Secretary/Treasurer if she is willing to take on the additional responsibilities. He said that he would speak with her and let the members know if she would accept the new title.

Chairman Reynolds said that the FCC states that it is the responsibility of the 700MHz Committee to make every effort possible to have maximum coverage of their region by notifying commercial trades of scheduled meetings. There is a published list of who needs to be notified. Chairman Reynolds said that he would find out who is on that list. The committee may incur some cost as a result of possibly running an ad in order to publish our meeting notices. Along with commercial trades, if there are any Native American tribes in your region, they must be notified.

Margaret Lyons said that she would send the Secretary/Treasurer the information on how to notify the Native American tribes. Margaret attended a meeting recently in Philadelphia where the Native American tribes in the area were notified to attend.

Chairman Reynolds stated that our notices have to be properly documented and become part of our written plan. The official meeting notices and our ads must be cut out and become part of the record along with the sign-in sheets from each meeting. Chairman Reynolds said that he would distribute a copy of the Region Plan to all members. He also mentioned that the Secretary/Treasurer should send out all future meeting notices.

Operational Committee Chairman Mike Bailey said that he would make changes to The Bylaws of Region 28 Draft and change the name to The Bylaws of Region 28 Version A. When making these changes use Microsoft Word program and use "Track Changes" which can be found under "Tools" located on the Tool Bar. This will indicate by use of different colors in a margin on the right hand side of the page exactly what was corrected, deleted, added, etc. Each time you change the version, the changes will be indicated in a different color.

SUMMARY

The following is a "To Do" list and includes:

Chairman Richard Reynolds
Copy of the Plan will be sent out to all members.
Check with Laurie Bailey to see if she is willing to be the Committee "Secretary /Treasurer" rather than just the "Secretary".
Update member email list from Sign-In Sheet.
Send out a list of key web links to the members.
Distribute (NYSTEC) funding documents to members.
Will find out what agencies must be notified of Region meetings (FCC published list).

Vice Chairman Raymond Haying
Send a copy of the Region 8 document to Mike Bailey.

Margaret Lyons
Will provide a copy of Indian Reservation Contacts to Secretary/ Treasurer.

Secretary Laurie Bailey
Will send out all future meeting notices.

Committee Chairman Mike Bailey
Make changes to The Bylaws of Region 28 Draft and change the name to The Bylaws of Region 28 Version A

Next meeting is set for August 17, 2006. It will be held at the Delaware Memorial Bridge Conference Room from 10:00 a.m. to 12:00 noon.

Any questions or changes to the minutes should be directed to Jody Nestor.

A motion was made by Chairman Reynolds to adjourn the meeting and seconded by Vice Chairman Hayling.

PUBLIC NOTICE

FederalCommunications Commission
445 12th St., S.W.
Washington,D.C. 20554

News media information 202 1418-0500
Fax-On-Demand 202 / 418-2830
TTY 202 1418-2555
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ftp.fee.gov

DA 06-1482
July 20, 2006

WIRELESS TELECOMMUNICATIONS BUREAU ACTION

REGION 28 (EASTERN PENNSYLVANIA, SOUTHERN NEW JERSEY AND DELAWARE AREA) PUBLIC SAFETY PLANNING COMi\IITTEES TO HOLD
700 MHz REGIONAL PUBLIC SAFETY PLANNING MEETING
AND
NPSPAC 800 MHz REGIONAL PUBLIC SAFETY PLANNING MEETING
(General Docket 89-573)

The Region 28 (Eastern Pennsylvania, Southern ew Jersey and Delaware area)[1] Regional Planning C0lmllittees will hold two planning meetings on Thursday, August 17, 2006, from 10:00 a.m. to 4:00 p.m. at the Delaware River and Bay Authority Police Department, Interstate 295 and evv Castle Avenue, in the Julia Building 2"d Floor Training Room, ew Castle, Delaware.[2]

The Region 28 700 MHz Regional Planning Conmlittee meeting will be held from 10:00 a.m. until 12:30 p.m. A lunch break from 12:30 p.m. to 2:00 p.m. will follow this meeting. The agenda for this meeting includes:

Review recent changes to the draft By-Laws, and
Appointment to the working conmlittees.

The Region 28 800 MHz Regional Planning Conmlittee meeting will be held from 2:00 p.m. to 4:00 p.m. The agenda for this meeting includes:

Technical Committee Assignments,
Sean O'Hara Presentation on TSB88 coverage modeling for the State of ew York's M A-COM System, and
V-Comm discussion on optimizing the regional frequency assignment database matrix using MS Access.

[1] The Region 28 area includes the Pennsylvania counties east of the Susquehanna River (Berks, Bradford, Bucks, Carbon, Chester Columbia, Dauphin, Delaware, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, Lycoming, Monroe, Montgomery, Montour, Northampton, orthumberland, Philadelphia, Pike, Schuylkill, Sullivan, Susquehanna, Tioga, Wayne, Wyoming and York); the Southern New Jersey counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Ocean and Salem) and the State of Delaware (Kent, ew Castle and Sussex counties).

[2] The Delaware River and Bay Authority Toll Plaza is located on the Delaware side of the Delaware Memorial Bridge and the Delaware 9 (New Castle Avenue) cloverleaf interchange.

Both of the Region 28 Public Safety Regional Planning Committee meetings are open to the public. All eligible public safety providers whose sole or principal purpose is to protect the safety of life, health, or property within the Region 28 area would utilize these frequencies. It is essential that not only public safety, but all government, Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Federal Communications Commission's Rules be represented in order to ensure that each agency's future spectrum needs are considered in the allocation process.

All interested parties wishing to participate in the planning for use of public safety spectrum in the 700 MHz and 800 MHz bands within Region 28 are encouraged to attend. For further information, please contact:

Richard R. Reynolds, Chairman
Region 28-700 MHz and 800 MHz RPC
Department of Technology and Information
801 Silver Lake Boulevard
Dover, Delaware 19904-2407
PH: 302-739-9648
FX: 302-739-7243
Email: Richard.Reynolds@state.de.us

or

Raymond Hayling, III
Vice Chair, Region 28-700 MHz RPC
Executive Director, State of New Jersey
Office of the Attorney General
Justice Complex, 25 Market Street
Trenton, New Jersey 08625
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DA 07-1833
April 24, 2007

PUBLIC SAFETY AND HOMELAND SECURITY BUREAU ACTION

REGION 28 (EASTERN PENNSYLVANIA, SOUTHERN NEW JERSEY AND DELAWARE AREA) PUBLIC SAFETY REGIONAL PLANNING COMMITTEE TO HOLD 700 MHz REGIONAL PUBLIC SAFETY PLANNING MEETING

The Region 28 (Eastern Pennsylvania, Southern New Jersey and Delaware area)[1] Public Safety Regional Planning Committee will hold its next meeting on Tuesday, May 22, 2007, from 10:00 a.m. to 3:00 p.m., at the Delaware River and Bay Authority Police Department, Julia Building, Interstate 295 and New Castle Avenue,[2] New Castle, Delaware. The purpose of this meeting is to review changes made to the draft by-laws, and to review progress of the 700 MHz plan stmcture by the working committees.

The Region 28 700 MHz Public Safety Regional Planning Committee meeting is open to the public. All eligible public safety providers whose sole or principal pmpose is to protect the safety of life, health, or property in Region 28 may utilize these frequencies. It is essential that public safety agencies in all areas of government, including state, municipality, county, and Native American Tribal, and non-govemmental organizations eligible under Section 90.523 of the Conunission's rules, be represented in order to ensure that each agency's foture spectmm needs are considered in the allocation process. Administrators who are not oriented in the communications field should delegate someone with this knowledge to attend, paiiicipate, and represent their agency's needs.

All interested parties wishing to participate in plaiming for the use of public safety spectrnm in the 700 MHz band within Region 28 should plan to attend. For further information,

[1] The Region 28 area includes the Pennsylvania counties east of the Susquehanna River (Berks, Bradford, Bucks, Carbon, Chester Columbia, Dauphin, Delaware, Lackawamla, Lancaster, Lebanon, Lehigh, Luzerne, Lycoming, Monroe, Montgomely, Montom; Nollhampton, Nol1lnuuberland, Philadelphia, Pike, Schuylkill, Sullivan, Susquehanna, Tioga, Wayne, Wyoming and York); the Southem New Jersey counties of Atlantic, Blulington, Camden, Cape May, Cmnberland, Gloucester, Ocean and Salem) and the State of Delaware (Kent, New Castle and Sussex colmties).

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please contact:

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Region 28 700 MHz Public Safety Regional Planning Committee
State of Delaware
Department of Technology and Information
801 Silver Lake Boulevard
Dover, Delaware 19904-2407
(302) 739-9648
richard.reynolds@state.de.us

or

Raymond J. Hayling, II, Region 28 Vice Chair, 700 MHz
Chief, Public Safety Communications
State of New Jersey
Office of the Attorney General
25 Market Street
Trenton, New Jersey 08625
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Raymond.hayling@lps.state.nj.us

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700 MHz Public Safety Planning Committee
Region 28 – Eastern Pennsylvania, Southern New Jersey, and Delaware
Delaware River Bay Authority
May 22, 2007
10am-3pm

Attendees:

Laurie Bailey	Jody Nestor	Raymond Hayling	Richard Reynolds
David Stern	Dominic Villecco	M. Jay Groce	Judy Brackin
W. Michael Bailey	David Murdoch	Jim Barsuglia	Norman Coltri
Mark Getsinger	Jim Magee	Richard Lohwasser	Richard Connor
Brad Perkins	Robert Gates	Tim Sindorf	Carmine DeFalco
Ed Velez	Margaret Lyons	T. Fred Short	Keith Leto
Craig Fetzer	Charles Bryson	Jim Shelton	Anthony Melia

Chairman Richard Reynolds called the meeting order at 10:15 am. Individuals in attendance introduced themselves. Correction to the Minutes of August 2006 – Richard Lohwasser was in attendance but not listed as one of the attendees.

Due to a resignation, the Chairman of the Technical Committee will now be Dominic Villecco.

There was another in-depth discussion of the By-Laws which were compared to the Region 20 Bylaws.
The Chairman asked for a motion to the By-Laws as amended per the discussion with an adoption date of this date. Motion was made by Carmine DeFalco, NJ Transit, and seconded by Lt. Anthony Melia, Essex County NJ. The vote was unanimous.

A copy of the By-Laws as amended and approved will be distributed with the minutes.

The Chairman reminded everyone that all documents we touch must be kept; this includes all correspondence, sign-in sheets, notes from meetings, etc which will be included in the plan. All that kind of information should be forwarded to the Secretary for safe-keeping until we are ready to put everything together. Dominic Villecco will be in charge of the final plan, putting all the documents in order, etc.

There was an in-depth discussion about whether a Consultant should be hired to write the actual plan versus doing it ourselves. There were several issues with how to pay for a consultant since each State has different purchasing/procurement rules, some more intricate than others. Another option would be to 'cut and paste' from Region 8's plan, using that as our template.

Charles Bryson from RCC provided a power-point overview of 700 MHz and its background with a question and answer session following.

Several meetings were set – they are:

Friday	June 8	11am-1pm	Technical Committee	Telephone Bridge
Thursday	June 28	10am-12pm	Technical Committee	Telephone Bridge
Thursday	July 26	10am-12pm	Technical Committee	Telephone Bridge
Monday	August 6	2 pm-4 pm	Technical Committee	Room 303, Baltimore Conference Center

The Chairman will make the arrangements and information will be forwarded via email regarding the number to call, and the location for the meeting in Baltimore.

The next scheduled meeting of the entire 700MHz group is slated for Thursday, August 23rd at 10am at the Delaware Bridge Authority. The Secretary will make the appropriate notifications to the FCC, APCO, NENA, and other interested parties.

A motion was made by Richard Lohwasser for adjournment, seconded by Michael Bailey. The meeting adjourned at 2:56 pm.

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DA 07-2617
June 14, 2007

PUBLIC SAFETY AND HOMELAND SECURITY BUREAU ACTION

REGION 28 (EASTERN PENNSYLVANIA ,SOUTHERN NEW JERSEY AND DELAWARE AREA) PUBLIC SAFETY REGIONAL PLANNING COMMITTEE TO HOLD 700 MHz REGIONAL PUBLIC SAFETY PLANNING MEETING

The Region 28 (Eastem Pennsylvania, Southern New Jersey and Delaware area)1 Public Safety Regional Planning Colmnittee will hold its next meeting on Thursday, August 23, 2007, from I0:00 a.m. to 4:00 p.m., at the Delaware River and Bay Authority Police Department, Julia Building, faterstate 295 and New Castle Avenue,[2] New Castle, Delaware. The purpose of this meeting is to review changes made to the draft by-laws, and to review progress of the 700 MHz plan stmch1re by the working committees.

The agenda for this meeting includes:

- Report on plan status by technical committee Chainnan
- Open discussion of the plan
- Vote of the Regional committee as to the plan

The Region 28 700 MHz Public Safety Regional Planning Committee meeting is open to the public. All eligible public safety providers whose sole or principal pmpose is to protect the safety of life, health, or propelty in Region 28 may utilize these frequencies. It is essential that public safety agencies in all areas of govenunent, including state, municipality, county, and Native American Tribal, and non-governmental organizations eligible under Section 90.523 of the Commission's mies, be represented in order to ensure that each agency's future spectmm needs are considered in the allocation process. Administrators who are not oriented in the

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- FCC -

Minutes of Technical Committee Meetings

Region 28 - 700 MHz Technical Planning Committee
Conference Call
Friday – June 8, 2006
11:00 am – 1:00 pm

The meeting was called to order by Region 28 Chair, Richard Reynolds. Roll call was taken by Member, Jody Nestor (see attached list).

AGENDA

1. Are there any unusual (known) requirements where a licensee will have a need for an inordinately high number of channels, such as the inception of a major new system? If there are systems that will be new to the 700/800 frequency band, some RPCs have reallocated from CAPRAD and provided more channels to a licensee. As a prime example, Houston/Harris County, TX where Region 51 reallocated channels from surrounding counties for a major new system. Region 20 similarly did the same thing for Prince George's County, MD and Stafford County, VA.

A. Technical Committee Chair, Dominic Villecco discussed the need to set goals.

B. Region 28 Chair Reynolds asked that the final draft be completed in time for states to be able to utilize this information in their proposals for PSIC Grant Program when they submit their Statewide Interoperable Communication Plan. The deadline for this application is September 30, 2007.

C. Member Norman Coltri mentioned that the FCC has an ongoing docket and we may need to make changes based on the latest FCC rules.

i. Agreed upon dates

1. August 23, 2007 – Formal presentation of the Draft
2. September 14, 2007 – Final Draft completed

D. Consultant Bryson suggested the use of Computer Assisted Pre-Coordination Resource and Database System (CAPRAD) as our starting point for channel assignments.

a. A discussion about channel assignments brought out the following points:

i. Assignments could then be made based upon a predetermined set of criteria

ii. Swapping of channels to eliminate the possibility of orphan channels

iii. Look into initiatives that are currently being developed an must be considered

iv. Look into counties with plans in other spectrums that could possibly give back to 700.

v. The FCC has not approved any Plans to date that have not used CAPRAD.

b. A motion was made by Region 28 Chair Reynolds and Technical Committee Chair Villecco to adopt CAPRAD along with the provisions to NCC for channel reassignment between adjacent counties in Region 28. The members voted unanimously to accept CAPRAD.

2. Initiation of a discussion related to how channels will be awarded when there is contention for available channels; more licensees requesting channels than available channels. The RPC should identify the general criteria through which channels will be awarded.

A. Consultant Bryson referred to a copy of the Region 8 Plan in reference to channels awards. He suggested that everyone review this section of the Plan.

a. The pertinent data on channel assignments from this plan will be extracted and put into a PDF file. The file will be uploaded to the Region 28 YAHOO Website.

b. All Technical Committee Members were asked to review this verbiage and enter your comments onto the website no later than June 22, 2007

3. Defined roles and responsibilities of Committees in the Administration of the Plan.

A. Technical Committee Chair asked that Region 28 Chair Reynolds define the rolls of all of the committees in relationship to the Plan.

4. Proposed notification process and scheduling of assignment windows.

A. Member Ed Velez accepted the responsibility of maintaining the Region 28_ 700 MHz Yahoo website that was designed by Region 28 Chair Reynolds.

a. An email will be sent out to the current list of members with instructions on how to access the website and also how to enter data.

5. Please look through the DRAFT, most of which comes from the Region 20 Plan. Please help to identify any areas that have not been struck through where you believe improvements are needed. Text with a strike-through relates to areas where Region 28 needs to identify its language. The strike-through was left there to ensure that everyone understands the gist of the requirements.

A. Changes to Region 28 Plan Draft

i. Page # _____ Change the number of first responders from "hundreds" to "thousands".

ii. Page #21 – "Region 28 RPC has the right to initiate action with the FCC in order to recall channel assignments".

iii. Cover – "North Umberland County" change to "Northumberland County".

6. We're trying to get a copy of the Region 8 Plan in WORD format so relevant sections with which the Region is comfortable can be lifted and inserted into the Region 28 Plan.

A. Technical Committee Chair Villecco received a copy of the Region 8 Plan prior to the meeting.

7. Additional Discussions

A. Consultant Bryson asked for copies of sign in sheets and minutes for Meting # 3 held in August 2006.

i. Member Jody Nestor will send copies of all meeting sign-in sheets, notifications, and minutes to Consultant Bryson on Monday, June 11, 2007

B. Regional Chair Reynolds also let everyone know that the State of Delaware has agreed to pay Consultant Charles Bryson of RCC Consultants to write the Plan for Region 28.

8. To Do List

A. August 23, 2007 – Formal presentation of the Draft

B. September 14, 2007 – Final Draft completed

C. The channel assignment section of the Region 8 Plan file will be uploaded to the Region 28 YAHOO Website.

i. Committee Members enter your comments onto the website no later than June 22, 2007.

D. Region 28 Chair Reynolds to define the rolls of all of the committees in relationship to the Plan.

E. Member Ed Velez will maintain the Region 28_ 700 MHz Yahoo website.

i.An email will be sent out to members with instructions on how to access the website and how to enter data.

F. Consultant Bryson to make changes to Region 28 Plan Draft.

G. Member Jody Nestor will send copies of all meeting sign-in sheets, notifications, and minutes to Consultant Bryson on Monday, June 11, 2007

A motion to adjourn the meeting was made by Technical Committee Chair Villecco and seconded by Region 28 Chair Reynolds.

Conference Call Attendees - June 8, 2007

ROLE	Name	Agency Name	E-mail address	Conference Call 6/8/07
Member	Bruno, Robert	Ocean County	rbruno@co.ocean.nj.us	x
Member	Bryson, Charles	RCC Consultants	cbryson@rcc.com	x
Member	Coltri, Norman	RCC Consultants	ncoltri@rcc.com	x
Member	Connor ,Richard	Camden Co DPS	rconnor@camdencounty.com	x
Member	DeFalco, Carmine	NJ Transit	edefalco@njtransit.com	x
Member	Gates, Robert	State of Delaware - DIVCOMM	robert.gates@state.de.us	
Member	Getsinger, Mark	NJ State Police	lppgetsm@gw.njsp.org	
Member	Lohwasser, Richard	Montgomery Co	rlohwasser@mail.montcopa.org	x
Member	Lyons, Margaret	RCC Consultants	mlyons@rcc.com	x
APCO Advisors	Melia, Anthony	Essex / AG's Office	meliaa@apco911.org	
Member	Moore, John	NJ DOC	johnh.moore@doc.state.nj.us	
Member	Nestor, Joanne (Jody)	NJ AG's Office	jody.nestor@lps.state.nj.us	x
APCO Advisors	Reynolds, Richard	State of Delaware - DTI	richard.reynolds@state.de.us	x
Member	Rinehart, Bette	Motorola	c18923@email.mot.com	x
Member	Short, T. Fred	Special System Services	sssconsulting@verizon.net	x
Member	Shuler, Thomas	Lancaster County	tom.shuler@vanadium.com	x
Member	Smith, Gary	Radio Maint Inc	gsmith@rmimail.com	
Member	Stern, David	V-Comm	david.stern@vcomm-eng.com	
Member	Velez, Ed	NJ Transit	evvelez@njtransit.com	x
Chairman	Villecco, Dominic	V-Comm	dominic.villecco@vcomm-eng.com	x

Appendix E – Common Air Interface

Project 25 Common Air Interface Interoperability Channel Parameters

Certain common P25 parameters need to be defined to ensure digital radios operating on the 700 MHz Interoperability Channels can communicate. This is analogous to defining the common CTCSS tone used on NPSPAC analog Interoperability channels.

Network Access Code

In the Project 25 Common Air Interface definition, the Network Access Code (NAC) is analogous to the use of CTCSS and CDCSS signals in analog radio systems. It is a code transmitted in the pre-amble of the P25 signal and repeated periodically throughout the transmission. Its purpose is to provide selective access to and maintain access to a receiver. It is also used to block nuisance and other co-channel signals. There are up to 4096 of these NAC codes. For ease of migration in other frequency bands, a NAC code table was developed which shows a mapping of CTCSS and CDCSS signals into corresponding NAC codes. Document TIA/EIA TSB102.BAAC contains NAC code table and other Project 25 Common Air Interface Reserve Values.

Use of corresponding NAC code $293 is required for the 700 MHz Interoperability Channel NAC code.

Talk group ID

In the Project 25 Common Air Interface definition, the Talk group ID on conventional channels is analogous to the use of talk groups in trunking. In order to ensure that all users can communicate, all units should use a common Talk group ID.

Recommendation: Use P25 default value for Talk group ID = $0001

Manufacturer's ID

The Project 25 Common Air Interface allows the ability to define manufacturer specific functions. In order to ensure that all users can communicate, all units should not use a specific Manufacturer's ID, but should use the default value of $00.

Message ID

The Project 25 Common Air Interface allows the ability to define specific message functions. In order to ensure that all users can communicate, all units should use the default Message ID for unencrypted messages of $00000000000000000000.

Encryption Algorithm ID and Key ID

The Project 25 Common Air Interface allows the ability to define specific encryption algorithms and encryption keys. In order to ensure that all users can communicate, encryption should not be used on the Interoperability Calling Channels. All units should use the default Algorithm ID for unencrypted messages of $80 and default Key ID for unencrypted messages 0000. These same defaults may be used for the other Interoperability channels when encryption is not used.

Use of encryption is allowed on the other Interoperability channels. Regional Planning Committees need to define appropriate Message ID, Encryption Algorithm ID, and Encryption Key ID to be used in the encrypted mode on Interoperability channels.

Appendix - F Simplified 700 MHz Pre-assignment Rules

TO BE REMOVED and Replace by Appendix P

1. Introduction

This section describes a process for coordinating the initial block assignments of 700 MHz channels. The allotment of spectrum provided by CAPRAD is for planning purposes, particularly defining the minimum channel usage at the border of Region 28 and neighboring Regions. Channel packing beyond CAPRAD will be based upon actual technical parameters and jurisdictional coverage requirements of the specific licensees. As such, CAPRAD provides a starting point for channel allotment not the most efficient utilization of the spectrum. The Region 28 Committee has the authority to utilize specific engineering analysis to move beyond CAPRAD to satisfy the spectrum requirements of public safety licensees.

2. Overview

Assignments will be based on a defined service area for 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.

Definition: Service area is the actual geographic area serviced by the licensee. This includes the jurisdictional area and any extension of the jurisdictional area required to support primary communications requirements as justified to the Region 28 Committee.

Definition: Coverage area is the service area plus a general 3-5 mile buffer, known as the extended service area

The signal level permitted at the edge of the coverage area is no more than 50 dBμ. Protection of an existing system is based upon signal strength at the edge of the coverage area of 40 dBμ.

For co-channel assignments analysis, the 40 dBμ signal will be allowed to extend to the edge of the coverage area which is beyond the defined service area by 3 to 5 miles, depending on the type of environment: urban, suburban or rural. The proposed co-channel 5 dBμ interfering contour will be allowed to impact the 40 dBμ service contour of the system being evaluated only in the extended service area and only if the overlap degradation of service area does not reduce the existing geographic coverage in excess 2%. For adjacent and alternate channels, the 60 dBμ interfering contour will be allowed to overlap the 40 dBμ service contour of the system being evaluated only in the extended service area and only if the overlap degradation of service area does not reduce the

existing geographic coverage in excess 2%. The propagation reliability is defined at F(50,50).

3. Discussion

Based upon the ERP/HAAT limitations referenced in 47CFR ¶ 90.541(a), the maximum field strength at the edge of the coverage area will be limited to 50 dB relative to 1µV/m (customarily denoted as 50 dBµ). It is assumed that this limitation will be applied similar to the way it is applied in the 821-824/866-869 MHz band. That is, a 50 dBµ field strength can be deployed up to a defined distance (extended service area) beyond the edge of the service area, based on the size of the service area or type of applicant, i.e. city, county or statewide system. The value of 50 dBµ in the 700 MHz band corresponds to a signal of -82.8 dBm, received by a half-wavelength dipole antenna.

Two primary concerns are addressed by the Region 28 Committee:

- Public safety systems must provide reliable ubiquitous coverage within the service area
- Public safety systems must be cost effective and not prohibitive to construct and operate

The Committee has chosen to define the coverage area to the standard 50 dBµ at 50% faded reliability to an extended service area 3-5 miles outside of the licensee jurisdictional area. This provides a proper balance between the need to conserve and re-use spectrum, and the necessity to provide reliable service coverage at an affordable infrastructure cost.

4. Portable In-Building Coverage

Most Public Safety communications systems today are designed for portable in building coverage and the requirement for a typical coverage reliability of 95%. Buildings of 20 dB or greater penetration loss can be located at any point within the jurisdictional polygon of the licensee. The permitting of the service contour to extend 3-5 miles beyond the jurisdictional polygon at 50 dBµ faded 50% reliability will improve the ability to communicate into buildings located at the jurisdictional line. However, the Committee understands that this extended service area alone may not address the in-building requirements of all licensees, particularly when a very high loss building is located at or very close to such boundaries. In these cases the licensee will need to specifically address the particular building with unique and innovative approaches.

5. Service Contour Extension Recommendation

The resulting recommendation for extending the 50 dBµ service contour beyond the service area boundary is:

Urban (20 dB Buildings):	5 miles
Suburban (15 dB Buildings):	4 miles
Rural (10 dB Buildings):	3 miles

The Region 28 Committee may waive these limits upon demonstration by the licensee that the urbanization classification does not properly address the licensee's situation; however the maximum distance of the service area extension is 5 miles in all situations.

6. Interfering Contour

The coverage and protected areas of an existing system are plotted at different signal strengths. The coverage signal strength is permitted at 50 dBμ, while the system will be protected from co-channel and adjacent channel system, both within and outside of Region 28, by the nationally accepted value of 40 dBμ. Thus Region 28 recognizes and allows greater signal strength to compensate for the reduced reliability, however still accepts the standard signal strength for interference analysis.

Signal levels are calculated using methods described in TIA TSB-88B (or a subsequent later version), by using Okumura-Hata-Davidson propagation modeling, median reliability and relative to a suburban environment. The modeling is to be based on at least 3 arc second terrain data. The diffraction portion of the modeling, where it can serve to artificially limit the size of the plot, must be disabled[17].

7. Co-Channel Interfering Contour Recommendation

The Committee will protect an existing system to a 40 dBμ F(50,50) service area which extends beyond the edge of the defined service area by the distance indicated in paragraph 5. A co-channel shall be allowed to have its 5 dBμ (50,50) interfering signal overlap the 40 dBμ extended service contour of the system being evaluated only if the reduction of overlap of the extended service area does not reduce the coverage area of the existing system in excess of 2%, and does not overlap into the jurisdictional service area.

8. Adjacent and Alternate Channel Considerations

Adjacent and alternate channels are treated as being on channel signals reduced by the value of Adjacent Channel Coupled Power (ACCP). This assumes that the primary mechanism for interference results from transmitter sideband noise appearing as an on-channel signal within the receiver bandwidth. Using the 47 CFR § 90.543 values of ACCP can facilitate the coordination of adjacent and alternate channels.

Based on 47 CFR ¶ 90.543 and the P25 requirement for an ACCP 65 dB into a 6.0 KHz channel bandwidth and leaving room for a migration from Phase 1 to Phase 2, allows for making the simplifying assumption that 65 dB ACCP is available for both adjacent 25 KHz spectrum blocks. For spectrum blocks spaced farther away, it must be assumed that transmitter filtering, in addition to transmitter performance improvements due to greater frequency separation, will further reduce the ACCPR. Therefore it is recommended that a consistent value of 65 dB ACCPR be used for the initial coordination of adjacent 25 KHz channel blocks. Rounding to be conservative due to the possibility of multiple sources allows the Adjacent Channel Interfering Contour to be approximately 20 dB above the 40 dBμ service contour, at 60 dBμ.

[17] Diffraction modeling may limit the size of the contour by drawing the contour line at the first point where the signal drops below the contour limit, even if the signal increases beyond that point.

9. Adjacent Channel Interfering Contour Recommendation

An adjacent (25 KHz) channel shall be allowed to have its 60 dBμ (50,50) interfering contour overlap the 40 dBμ extended service contour of the system being evaluated only if the overlap degradation of the extended service area does not reduce the coverage area of the existing system in excess of 2%,and does not overlap into the jurisdictional service area.

10. Final Detailed Coordination

The coordination for frequencies prior to system procurement does not address the specific and unique circumstances of the particular system and is only adequate for presorting large blocks of spectrum to potential entities. A more detailed analysis should be included in the actual design phase to take all the issues into consideration. A detailed report to the Region 28 Committee is to be submitted by each license detailing the "As Built" system once it is completed for the purposes of subsequent channel assignment. This information is available to other potential licensees to assist with licensing and coordinating those new systems to avoid interference.

Additional factors that should be considered include:

- Degree of Service Area Overlap
- Different size of Service Areas
- Different ERPs and HAATs
- Actual Terrain and Land Usage
- Differing User Reliability Requirements
- Migration from 12.5 kHz to 6.25 kHz efficiency standard, as required
- Site Separation
- Actual ACCP
- Balanced Systems
- Mobiles vs. Portables
- Use of voting
- Use of simulcast
- Radio specifications
- Simplex Operation
- Antenna system design

Special attention needs to be paid to the use of simplex operation. In this case, an interferer can be on an offset adjacent channel and in extremely close proximity to the victim receiver. This is especially critical in public safety where simplex operations are frequently used at a fire scene or during police operation. Simplex operations, other than those on the low power or interoperable channels, are generally not offered protection from interference.

11. Carrier to Interference Requirements

There are two different ways that Interference is considered.

- Co Channel
- Adjacent and Alternate Channels

Co-channel C/I is defined as by the 40 and 5 dBμ contours for a difference of 35 dB. The co-channel contours are permitted to overlap only in the extended service area that extends 3-5 miles from the jurisdictional border and only to the extent that the 40 dBμ F(90,50) service area is not reduced by more than a combined 2%

Adjacent and Alternate channel C/I is defined by the 40 and 60 dBμ contours for a difference of -20 dB. The adjacent and alternate channel contours are permitted to overlap only in the extended service area that extends 3-5 miles from the jurisdictional border and only to the extent that the 40 dBμ F(90,50) extended service area is not reduced by more than a combined 2%

Appendix G – Channel Allotments by Geographic Area

Region 28 - DE,NJ,PA Area
Channel Allotments

County	Class	Band Width	Channel	Base Frequency	Mobile Frequency
Provisional	Low Power	Voice 12.5KHz	1-2	769.006250	799.006250
	Low Power	Voice 12.5KHz	3-4	769.018750	799.018750
	Low Power	Voice 12.5KHz	5-6	769.031250	799.031250
	Low Power	Voice 12.5KHz	7-8	769.043750	799.043750
	Low Power	Voice 12.5KHz	9-10	769.056250	799.056250
	Low Power	Voice 12.5KHz	11-12	769.068750	799.068750
	Low Power	Voice 12.5KHz	949-950	774.931250	804.931250
	Low Power	Voice 12.5KHz	951-952	774.943750	804.943750
	Low Power	Voice 12.5KHz	953-954	774.956250	804.956250
	Low Power	Voice 12.5KHz	955-956	774.968750	804.968750
	Low Power	Voice 12.5KHz	957-958	774.981250	804.981250
	Low Power	Voice 12.5KHz	959-960	774.993750	804.993750
State of Delaware					
Kent	General Use	Voice 25KHz	13-16	769.087500	799.087500
	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	173-176	770.087500	800.087500
	General Use	Voice 25KHz	257-260	770.612500	800.612500
	General Use	Voice 25KHz	337-340	771.112500	801.112500
	General Use	Voice 25KHz	361-364	771.262500	801.262500
	General Use	Voice 25KHz	389-392	771.437500	801.437500
	General Use	Voice 25KHz	441-444	771.762500	801.762500
	General Use	Voice 25KHz	489-492	772.062500	802.062500
	General Use	Voice 25KHz	509-512	772.187500	802.187500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
	General Use	Voice 25KHz	585-588	772.662500	802.662500
	General Use	Voice 25KHz	677-680	773.237500	803.237500
	General Use	Voice 25KHz	781-784	773.887500	803.887500

	General Use	Voice 25KHz	797-800	773.987500	803.987500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
	General Use	Voice 25KHz	917-930	774.737500	804.737500
	General Use	Voice 25KHz	941-944	774.887500	804.887500
New Castle	General Use	Voice 25KHz	53-56	769.337500	799.337500
	General Use	Voice 25KHz	133-136	769.837500	799.837500
	General Use	Voice 25KHz	293-296	770.837500	800.837500
	General Use	Voice 25KHz	337-340	771.112500	801.112500
	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	381-384	771.387500	801.387500
	General Use	Voice 25KHz	449-452	771.812500	801.812500
	General Use	Voice 25KHz	489-492	772.062500	802.062500
	General Use	Voice 25KHz	501-504	772.137500	802.137500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	565-568	772.537500	802.537500
	General Use	Voice 25KHz	601-604	772.762500	802.762500
	General Use	Voice 25KHz	625-628	772.912500	802.912500
	General Use	Voice 25KHz	629-632	772.937500	802.937500
	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	797-800	773.987500	803.987500
	General Use	Voice 25KHz	825-828	774.162500	804.162500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
Sussex	General Use	Voice 25KHz	49-52	769.312500	799.312500
	General Use	Voice 25KHz	93-96	769.587500	799.587500
	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	201-204	770.262500	800.262500
	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	289-292	770.812500	800.812500
	General Use	Voice 25KHz	377-380	771.362500	801.362500
	General Use	Voice 25KHz	417-420	771.612500	801.612500
	General Use	Voice 25KHz	445-448	771.787500	801.787500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	521-524	772.262500	802.262500
	General Use	Voice 25KHz	577-580	772.612500	802.612500
	General Use	Voice 25KHz	601-604	772.762500	802.762500
	General Use	Voice 25KHz	621-624	772.887500	802.887500
	General Use	Voice 25KHz	665-668	773.162500	803.162500

	General Use	Voice 25KHz	713-716	773.462500	803.462500
	General Use	Voice 25KHz	753-756	773.712500	803.712500
	General Use	Voice 25KHz	821-824	774.137500	804.137500
	General Use	Voice 25KHz	901-904	774.637500	804.637500
	General Use	Voice 25KHz	945-948	774.912500	804.912500
State of New Jersey					
Atlantic	General Use	Voice 25KHz	17-20	769.112500	799.112500
	General Use	Voice 25KHz	97-100	769.612500	799.612500
	General Use	Voice 25KHz	253-256	770.587500	800.587500
	General Use	Voice 25KHz	365-368	771.287500	801.287500
	General Use	Voice 25KHz	437-440	771.737500	801.737500
	General Use	Voice 25KHz	537-540	772.362500	802.362500
	General Use	Voice 25KHz	589-592	772.687500	802.687500
	General Use	Voice 25KHz	661-664	773.137500	803.137500
	General Use	Voice 25KHz	701-704	773.387500	803.387500
	General Use	Voice 25KHz	873-876	774.462500	804.462500
Burlington	General Use	Voice 25KHz	89-93	769.562500	799.562500
	General Use	Voice 25KHz	169-172	770.062500	800.062500
	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	377-380	771.362500	801.362500
	General Use	Voice 25KHz	421-424	771.637500	801.637500
	General Use	Voice 25KHz	469-472	771.937500	801.937500
	General Use	Voice 25KHz	521-524	772.262500	802.262500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
	General Use	Voice 25KHz	613-616	772.837500	802.837500
Camden	General Use	Voice 25KHz	129-132	769.812500	799.812500
	General Use	Voice 25KHz	201-204	770.262500	800.262500
	General Use	Voice 25KHz	297-300	770.862500	800.862500
	General Use	Voice 25KHz	353-356	771.212500	801.212500
	General Use	Voice 25KHz	497-500	772.112500	802.112500
	General Use	Voice 25KHz	621-624	772.887500	802.887500
	General Use	Voice 25KHz	713-716	773.462500	803.462500
	General Use	Voice 25KHz	789-792	773.937500	803.937500
	General Use	Voice 25KHz	829-832	774.187500	804.187500
Cape May	General Use	Voice 25KHz	85-88	769.537500	799.537500
	General Use	Voice 25KHz	177-180	770.112500	800.112500

	General Use	Voice 25KHz	217-220	770.362500	800.362500
	General Use	Voice 25KHz	285-288	770.787500	800.787500
	General Use	Voice 25KHz	345-348	771.162500	801.162500
	General Use	Voice 25KHz	385-388	771.412500	801.412500
	General Use	Voice 25KHz	429-432	771.687500	801.687500
	General Use	Voice 25KHz	477-480	771.987500	801.987500
	General Use	Voice 25KHz	517-520	772.237500	802.237500
	General Use	Voice 25KHz	569-572	772.562500	802.562500
	General Use	Voice 25KHz	637-640	772.987500	802.987500
	General Use	Voice 25KHz	717-720	773.487500	803.487500
	General Use	Voice 25KHz	785-788	773.912500	803.912500
	General Use	Voice 25KHz	913-916	774.712500	804.712500
Cumberland	General Use	Voice 25KHz	45-48	769.287500	799.287500
	General Use	Voice 25KHz	125-128	769.787500	799.787500
	General Use	Voice 25KHz	165-168	770.037500	800.037500
	General Use	Voice 25KHz	205-208	770.287500	800.287500
	General Use	Voice 25KHz	325-328	771.037500	801.037500
	General Use	Voice 25KHz	405-408	771.537500	801.537500
	General Use	Voice 25KHz	485-488	772.037500	802.037500
	General Use	Voice 25KHz	529-532	772.312500	802.312500
	General Use	Voice 25KHz	617-620	772.862500	802.862500
	General Use	Voice 25KHz	669-672	773.187500	803.187500
	General Use	Voice 25KHz	749-752	773.687500	803.687500
	General Use	Voice 25KHz	793-796	773.962500	803.962500
	General Use	Voice 25KHz	833-836	774.212500	804.212500
Gloucester	General Use	Voice 25KHz	393-396	771.462500	801.462500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	513-516	772.212500	802.212500
	General Use	Voice 25KHz	577-580	772.612500	802.612500
	General Use	Voice 25KHz	633-636	772.962500	802.962500
	General Use	Voice 25KHz	909-912	774.687500	804.687500
Ocean	General Use	Voice 25KHz	53-56	769.337500	799.337500
	General Use	Voice 25KHz	133-136	769.837500	799.837500
	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	449-452	771.812500	801.812500
	General Use	Voice 25KHz	501-504	772.137500	802.137500

	General Use	Voice 25KHz	601-604	772.762500	802.762500
	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	825-828	774.162500	804.162500
	General Use	Voice 25KHz	941-944	774.887500	804.887500
Salem	General Use	Voice 25KHz	333-336	771.087500	801.087500
	General Use	Voice 25KHz	413-416	771.587500	801.587500
	General Use	Voice 25KHz	457-460	771.862500	801.862500
	General Use	Voice 25KHz	609-612	772.812500	802.812500
	General Use	Voice 25KHz	709-712	773.437500	803.437500
	General Use	Voice 25KHz	865-868	774.412500	804.412500
Commonwealth of Pennsylvania					
Berks	General Use	Voice 25KHz	125-128	769.787500	799.787500
	General Use	Voice 25KHz	173-176	770.087500	800.087500
	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	377-380	771.362500	801.362500
	General Use	Voice 25KHz	445-448	771.787500	801.787500
	General Use	Voice 25KHz	525-528	772.287500	802.287500
	General Use	Voice 25KHz	569-572	772.562500	802.562500
	General Use	Voice 25KHz	621-624	772.887500	802.887500
	General Use	Voice 25KHz	669-672	773.187500	803.187500
	General Use	Voice 25KHz	941-944	774.887500	804.887500
Bradford	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	345-348	771.162500	801.162500
	General Use	Voice 25KHz	417-420	771.612500	801.612500
	General Use	Voice 25KHz	457-460	771.862500	801.862500
	General Use	Voice 25KHz	509-512	772.187500	802.187500
	General Use	Voice 25KHz	569-572	772.562500	802.562500
	General Use	Voice 25KHz	713-716	773.462500	803.462500
	General Use	Voice 25KHz	789-792	773.937500	803.937500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
Bucks	General Use	Voice 25KHz	41-44	769.262500	799.262500
	General Use	Voice 25KHz	81-84	769.512500	799.512500
	General Use	Voice 25KHz	249-252	770.562500	800.562500
	General Use	Voice 25KHz	289-292	770.812500	800.812500
	General Use	Voice 25KHz	337-340	771.112500	801.112500
	General Use	Voice 25KHz	429-432	771.687500	801.687500
	General Use	Voice 25KHz	477-480	771.987500	801.987500

	General Use	Voice 25KHz	533-536	772.337500	802.337500
	General Use	Voice 25KHz	585-588	772.662500	802.662500
	General Use	Voice 25KHz	637-640	772.987500	802.987500
	General Use	Voice 25KHz	677-680	773.237500	803.237500
	General Use	Voice 25KHz	781-784	773.887500	803.887500
	General Use	Voice 25KHz	905-908	774.662500	804.662500
Carbon	General Use	Voice 25KHz	133-136	769.837500	799.837500
	General Use	Voice 25KHz	293-296	770.837500	800.837500
	General Use	Voice 25KHz	401-404	771.512500	801.512500
	General Use	Voice 25KHz	497-500	772.112500	802.112500
	General Use	Voice 25KHz	537-540	772.362500	802.362500
	General Use	Voice 25KHz	633-636	772.962500	802.962500
Chester	General Use	Voice 25KHz	85-88	769.537500	799.537500
	General Use	Voice 25KHz	349-352	771.187500	801.187500
	General Use	Voice 25KHz	409-412	771.562500	801.562500
	General Use	Voice 25KHz	461-464	771.887500	801.887500
	General Use	Voice 25KHz	517-520	772.237500	802.237500
	General Use	Voice 25KHz	581-584	772.637500	802.637500
	General Use	Voice 25KHz	717-720	773.487500	803.487500
	General Use	Voice 25KHz	785-788	773.912500	803.912500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
	General Use	Voice 25KHz	901-904	774.637500	804.637500
Columbia	General Use	Voice 25KHz	97-100	769.612500	799.612500
	General Use	Voice 25KHz	349-352	771.187500	801.187500
	General Use	Voice 25KHz	405-408	771.537500	801.537500
	General Use	Voice 25KHz	501-504	772.137500	802.137500
	General Use	Voice 25KHz	869-872	774.437500	804.437500
	General Use	Voice 25KHz	913-916	774.712500	804.712500
Dauphin	General Use	Voice 25KHz	81-84	769.512500	799.512500
	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	353-356	771.212500	801.212500
	General Use	Voice 25KHz	401-404	771.512500	801.512500
	General Use	Voice 25KHz	453-456	771.837500	801.837500
	General Use	Voice 25KHz	497-500	772.112500	802.112500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	605-608	772.787500	802.787500
	General Use	Voice 25KHz	713-716	773.462500	803.462500

	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	917-930	774.737500	804.737500
Delaware	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	245-248	770.537500	800.537500
	General Use	Voice 25KHz	285-288	770.787500	800.787500
	General Use	Voice 25KHz	373-376	771.337500	801.337500
	General Use	Voice 25KHz	433-436	771.712500	801.712500
	General Use	Voice 25KHz	473-476	771.962500	801.962500
	General Use	Voice 25KHz	541-544	772.387500	802.387500
	General Use	Voice 25KHz	673-676	773.212500	803.212500
	General Use	Voice 25KHz	741-744	773.637500	803.637500
Lackawanna	General Use	Voice 25KHz	49-52	769.312500	799.312500
	General Use	Voice 25KHz	93-96	769.587500	799.587500
	General Use	Voice 25KHz	169-172	770.062500	800.062500
	General Use	Voice 25KHz	209-212	770.312500	800.312500
	General Use	Voice 25KHz	325-328	771.037500	801.037500
	General Use	Voice 25KHz	385-388	771.412500	801.412500
	General Use	Voice 25KHz	433-436	771.712500	801.712500
	General Use	Voice 25KHz	477-480	771.987500	801.987500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
	General Use	Voice 25KHz	621-624	772.887500	802.887500
	General Use	Voice 25KHz	705-708	773.412500	803.412500
	General Use	Voice 25KHz	825-828	774.162500	804.162500
	General Use	Voice 25KHz	865-868	774.412500	804.412500
	General Use	Voice 25KHz	917-930	774.737500	804.737500
Lancaster	General Use	Voice 25KHz	45-48	769.287500	799.287500
	General Use	Voice 25KHz	93-96	769.587500	799.587500
	General Use	Voice 25KHz	201-204	770.262500	800.262500
	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	325-328	771.037500	801.037500
	General Use	Voice 25KHz	365-368	771.287500	801.287500
	General Use	Voice 25KHz	469-472	771.937500	801.937500
	General Use	Voice 25KHz	613-616	772.837500	802.837500
	General Use	Voice 25KHz	661-664	773.137500	803.137500
	General Use	Voice 25KHz	749-752	773.687500	803.687500
	General Use	Voice 25KHz	793-796	773.962500	803.962500
	General Use	Voice 25KHz	833-836	774.212500	804.212500
	General Use	Voice 25KHz	873-876	774.462500	804.462500

Lebanon	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	433-436	771.712500	801.712500
	General Use	Voice 25KHz	481-484	772.012500	802.012500
	General Use	Voice 25KHz	541-544	772.387500	802.387500
	General Use	Voice 25KHz	629-632	772.937500	802.937500
	General Use	Voice 25KHz	701-704	773.387500	803.387500
	General Use	Voice 25KHz	865-868	774.412500	804.412500
	General Use	Voice 25KHz	909-912	774.687500	804.687500
Lehigh	General Use	Voice 25KHz	17-20	769.112500	799.112500
	General Use	Voice 25KHz	89-93	769.562500	799.562500
	General Use	Voice 25KHz	165-168	770.037500	800.037500
	General Use	Voice 25KHz	345-348	771.162500	801.162500
	General Use	Voice 25KHz	393-396	771.462500	801.462500
	General Use	Voice 25KHz	437-440	771.737500	801.737500
	General Use	Voice 25KHz	597-600	772.737500	802.737500
	General Use	Voice 25KHz	789-792	773.937500	803.937500
	General Use	Voice 25KHz	829-832	774.187500	804.187500
Luzerne	General Use	Voice 25KHz	13-16	769.087500	799.087500
	General Use	Voice 25KHz	85-88	769.537500	799.537500
	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	217-220	770.362500	800.362500
	General Use	Voice 25KHz	285-288	770.787500	800.787500
	General Use	Voice 25KHz	361-364	771.262500	801.262500
	General Use	Voice 25KHz	413-416	771.587500	801.587500
	General Use	Voice 25KHz	517-520	772.237500	802.237500
	General Use	Voice 25KHz	561-564	772.512500	802.512500
	General Use	Voice 25KHz	601-604	772.762500	802.762500
	General Use	Voice 25KHz	665-668	773.162500	803.162500
	General Use	Voice 25KHz	717-720	773.487500	803.487500
	General Use	Voice 25KHz	785-788	773.912500	803.912500
	General Use	Voice 25KHz	837-840	774.237500	804.237500
	General Use	Voice 25KHz	901-904	774.637500	804.637500
	General Use	Voice 25KHz	945-948	774.912500	804.912500
Lycoming	General Use	Voice 25KHz	45-48	769.287500	799.287500
	General Use	Voice 25KHz	121-124	769.762500	799.762500
	General Use	Voice 25KHz	161-164	770.012500	800.012500
	General Use	Voice 25KHz	201-204	770.262500	800.262500
	General Use	Voice 25KHz	253-256	770.587500	800.587500

	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	553-556	772.462500	802.462500
	General Use	Voice 25KHz	625-628	772.912500	802.912500
	General Use	Voice 25KHz	677-680	773.237500	803.237500
	General Use	Voice 25KHz	753-756	773.712500	803.712500
	General Use	Voice 25KHz	829-832	774.187500	804.187500
Monroe	General Use	Voice 25KHz	121-124	769.762500	799.762500
	General Use	Voice 25KHz	201-204	770.262500	800.262500
	General Use	Voice 25KHz	333-336	771.087500	801.087500
	General Use	Voice 25KHz	425-428	771.662500	801.662500
	General Use	Voice 25KHz	489-492	772.062500	802.062500
	General Use	Voice 25KHz	553-556	772.462500	802.462500
	General Use	Voice 25KHz	609-612	772.812500	802.812500
	General Use	Voice 25KHz	745-748	773.662500	803.662500
	General Use	Voice 25KHz	909-912	774.687500	804.687500
Montgomery	General Use	Voice 25KHz	49-52	769.312500	799.312500
	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	209-212	770.312500	800.312500
	General Use	Voice 25KHz	329-332	771.062500	801.062500
	General Use	Voice 25KHz	385-388	771.412500	801.412500
	General Use	Voice 25KHz	453-456	771.837500	801.837500
	General Use	Voice 25KHz	505-508	772.162500	802.162500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	605-608	772.787500	802.787500
	General Use	Voice 25KHz	753-756	773.712500	803.712500
	General Use	Voice 25KHz	821-824	774.137500	804.137500
	General Use	Voice 25KHz	869-872	774.437500	804.437500
	General Use	Voice 25KHz	917-930	774.737500	804.737500
Montour	General Use	Voice 25KHz	297-300	770.862500	800.862500
	General Use	Voice 25KHz	389-392	771.437500	801.437500
	General Use	Voice 25KHz	441-444	771.762500	801.762500
	General Use	Voice 25KHz	493-496	772.087500	802.087500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
	General Use	Voice 25KHz	617-620	772.862500	802.862500
	General Use	Voice 25KHz	709-712	773.437500	803.437500
Northampton	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	357-360	771.237500	801.237500

	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	513-516	772.212500	802.212500
	General Use	Voice 25KHz	577-580	772.612500	802.612500
	General Use	Voice 25KHz	617-620	772.862500	802.862500
	General Use	Voice 25KHz	709-712	773.437500	803.437500
	General Use	Voice 25KHz	757-760	773.737500	803.737500
Northumberland	General Use	Voice 25KHz	245-248	770.537500	800.537500
	General Use	Voice 25KHz	333-336	771.087500	801.087500
	General Use	Voice 25KHz	381-384	771.387500	801.387500
	General Use	Voice 25KHz	429-432	771.687500	801.687500
	General Use	Voice 25KHz	529-532	772.312500	802.312500
	General Use	Voice 25KHz	581-584	772.637500	802.637500
	General Use	Voice 25KHz	745-748	773.662500	803.662500
	General Use	Voice 25KHz	905-908	774.662500	804.662500
Philadelphia	General Use	Voice 25KHz	13-16	769.087500	799.087500
	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	121-124	769.762500	799.762500
	General Use	Voice 25KHz	161-164	770.012500	800.012500
	General Use	Voice 25KHz	217-220	770.362500	800.362500
	General Use	Voice 25KHz	257-260	770.612500	800.612500
	General Use	Voice 25KHz	321-324	771.012500	801.012500
	General Use	Voice 25KHz	361-364	771.262500	801.262500
	General Use	Voice 25KHz	401-404	771.512500	801.512500
	General Use	Voice 25KHz	441-444	771.762500	801.762500
	General Use	Voice 25KHz	489-492	772.062500	802.062500
	General Use	Voice 25KHz	549-552	772.437500	802.437500
	General Use	Voice 25KHz	593-596	772.712500	802.712500
	General Use	Voice 25KHz	665-668	773.162500	803.162500
	General Use	Voice 25KHz	705-708	773.412500	803.412500
	General Use	Voice 25KHz	797-800	773.987500	803.987500
	General Use	Voice 25KHz	837-840	774.237500	804.237500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
	General Use	Voice 25KHz	945-948	774.912500	804.912500
Pike	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	449-452	771.812500	801.812500
	General Use	Voice 25KHz	521-524	772.262500	802.262500
	General Use	Voice 25KHz	629-632	772.937500	802.937500

	General Use	Voice 25KHz	941-944	774.887500	804.887500
Schuylkill	General Use	Voice 25KHz	53-56	769.337500	799.337500
	General Use	Voice 25KHz	257-260	770.612500	800.612500
	General Use	Voice 25KHz	321-324	771.012500	801.012500
	General Use	Voice 25KHz	369-372	771.312500	801.312500
	General Use	Voice 25KHz	421-424	771.637500	801.637500
	General Use	Voice 25KHz	473-476	771.962500	801.962500
	General Use	Voice 25KHz	549-552	772.437500	802.437500
	General Use	Voice 25KHz	589-592	772.687500	802.687500
	General Use	Voice 25KHz	797-800	773.987500	803.987500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
Sullivan	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	329-332	771.062500	801.062500
	General Use	Voice 25KHz	445-448	771.787500	801.787500
	General Use	Voice 25KHz	525-528	772.287500	802.287500
	General Use	Voice 25KHz	585-588	772.662500	802.662500
Susquehanna	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	297-300	770.862500	800.862500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	669-672	773.187500	803.187500
	General Use	Voice 25KHz	741-744	773.637500	803.637500
	General Use	Voice 25KHz	833-836	774.212500	804.212500
	General Use	Voice 25KHz	905-908	774.662500	804.662500
Tioga	General Use	Voice 25KHz	53-56	769.337500	799.337500
	General Use	Voice 25KHz	129-132	769.812500	799.812500
	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	365-368	771.287500	801.287500
	General Use	Voice 25KHz	409-412	771.562500	801.562500
	General Use	Voice 25KHz	533-536	772.337500	802.337500
	General Use	Voice 25KHz	821-824	774.137500	804.137500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
Wayne	General Use	Voice 25KHz	161-164	770.012500	800.012500
	General Use	Voice 25KHz	353-356	771.212500	801.212500
	General Use	Voice 25KHz	441-444	771.762500	801.762500
	General Use	Voice 25KHz	529-532	772.312500	802.312500
	General Use	Voice 25KHz	637-640	772.987500	802.987500
	General Use	Voice 25KHz	677-680	773.237500	803.237500
	General Use	Voice 25KHz	793-796	773.962500	803.962500

Wyoming	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	125-128	769.787500	799.787500
	General Use	Voice 25KHz	373-376	771.337500	801.337500
	General Use	Voice 25KHz	485-488	772.037500	802.037500
	General Use	Voice 25KHz	613-616	772.837500	802.837500
	General Use	Voice 25KHz	749-752	773.687500	803.687500
York	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	121-124	769.762500	799.762500
	General Use	Voice 25KHz	169-172	770.062500	800.062500
	General Use	Voice 25KHz	297-300	770.862500	800.862500
	General Use	Voice 25KHz	337-340	771.112500	801.112500
	General Use	Voice 25KHz	385-388	771.412500	801.412500
	General Use	Voice 25KHz	437-440	771.737500	801.737500
	General Use	Voice 25KHz	477-480	771.987500	801.987500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
	General Use	Voice 25KHz	705-708	773.412500	803.412500
	General Use	Voice 25KHz	945-948	774.912500	804.912500

Appendix H - SAMPLE NOTIFICATIONS BY RPC TO SECONDARY TV STATIONS

REPEALED by FCC 14-172

Appendix I – DTV Transition Procedures

All references to the protection of television stations operating in the public safety 700 MHz spectrumwere removed in FCC 14-172

Appendix J – Internal Dispute Resolution

INTRODUCTION

The Regional Committee is established under 47 CFR §90.527 of the FCC's rules and regulations which came into effect on June 22, 2001. It is an independent Committee apart from the Federal Communications Commission with authority to evaluate application for public safety uses of the spectrum allocated under FCC Docket 96-86. In addition, appeals from decisions made with respect to a variety of matters regulated by the Regional Committee will be heard. The formal requirements of the appeal process are set out below.

In order to ensure that the appeal process is open and understandable to the public, the Regional Committee has developed this procedure. Those involved in the appeal process can expect the Committee and its members to follow the procedures (as may be amended from time to time). Where any matter arises during the course of an appeal that is not dealt with in this document, the Committee will do whatever is necessary to enable it to adjudicate fairly, effectively and completely on the appeal. In addition, the Committee may dispense with compliance with any part or all of a particular procedure where it is appropriate in the circumstances. As the Committee gains experience, it will refine and, if necessary, change its policies. Any changes made to the procedure will require a modification to the Regional Plan and will be made available to the public.

The Regional Committee will make every effort to process appeals in a timely fashion and issue decisions expeditiously.

Appeals Committee

Members

The Regional Chair may organize the Committee into Sub-Committees, each comprised of one or more members, the Appeals Sub-Committee is one of those Sub-Committees.

Where an appeal is scheduled to be heard by this Sub-Committee the chair is determined as follows:

(a) If the chair of the Committee is on the Sub-Committee, he/she will be the chair;

(b) If the chair of the Committee is not on the Sub-Committee but the vice chair is, the vice chair will be the chair; and

(c) If neither the chair nor the vice chair is on the Sub-Committee, the Regional Committee will designate one of the members to be the chair.

Withdrawal or Disqualification of a Committee Member on the Grounds of Bias

Where the chair or a Committee member becomes aware of any facts that would lead an informed person, viewing the matter reasonably and practically, to conclude that a member, whether consciously or unconsciously, would not decide a matter fairly, the member will be prohibited from conducting the appeal unless consent is obtained from all parties to continue. In addition, any party to an appeal may challenge a member on the basis of real or a reasonable apprehension of bias.

Correspondence (Communicating) with the Committee

To ensure the appeal process is kept open and fair to the participants, any correspondence to the Regional Committee must be sent to the Chair and be copied to all other Committee members and other parties to the appeal, if applicable.

Committee members will not contact a party on any matter relevant to the merits of the appeal, unless that member puts all other parties on notice and gives them an opportunity to participate.
The appeal process is public in nature and all meetings regarding the appeal will be open to the public.

THE APPEAL PROCESS

Filing an Appeal

What can be appealed

The Committee hears appeals from a determination or allotment and shall include the following: i.e. number of channels assigned, ranking in the allotment matrix, interference, or any other criteria that the region shall establish.

Who can appeal

An official of the entity who filed the original application to the Regional Committee must be the person who files the appeal on behalf of the entity.

How to appeal

A notice of appeal must be served upon the Regional Committee. The notice of appeal may be "delivered" by mail, courier, or hand delivered to the office of the Chair and Members of the Committee as listed in the Official Membership List. The Committee will also accept a notice of appeal by facsimile to the Chair and Secretary with the original copy of the notice of appeal served as indicated above.

Certain things must be included in a notice of appeal for it to be accepted. The notice of appeal **must** include:

1. The name and address of the appellant;
2. The name of the person, if any, making the request for an appeal on behalf of the appellant;
3. The address for service of the appellant;
4. The grounds for appeal (a detailed explanation of the appellant's objections to the determination - describe errors in the decision);
5. A description of the relief requested (What do you want the Committee to order at the end of the appeal?);
6. The signature of the appellant or the appellant's representative.

Time limit for filing the appeal

To appeal a determination or allotment the entity who is subject to the determination must deliver a notice of appeal **within three weeks** after receiving the decision. If a notice of appeal is not delivered within the time required, the right to an appeal is lost. However, the Committee is allowed to extend the deadline, either before or after its expiration based upon a majority plus one vote of the Committee.

Extension of time to appeal

The Committee has the discretion to extend the time to appeal either before or after the three week deadline. A request for an extension should be made to the Committee, in writing, and include the reasons for the delay in filing the notice of appeal and any other reasons which the requester believes support the granting of an extension of time to file the appeal. A request for an extension should accompany the notice of appeal.

In deciding whether to grant an extension, the Committee will consider whether fairness requires an extension. The Committee will take into account the length of the delay, the adequacy of the reasons for the delay, the prejudice to those affected by the delay and any impacts that may result from an extension. Other factors not identified could be relevant depending on the circumstances of the particular case.

Rejection of a notice of appeal

The Committee may reject a notice of appeal if:

(a) It is determined that the appellant does not have standing to appeal or;
(b) The Committee does not have jurisdiction over the subject matter or the remedy sought.

Before a notice of appeal is rejected, the Committee will inform the appellant of this in

writing, with reasons, and give the appellant a three-week opportunity to make submissions and any potential parties with an opportunity to respond.

Adding parties to the appeal

In addition to the parties mentioned above, the Committee has the discretion to add any other person who may be "affected" by the appeal as a party to the appeal. Anyone wanting to obtain party status should make a written request to the Committee as early as possible. The written request should contain the following information:

a. The name, address, telephone and fax number, if any, of the person submitting the request;

b. A detailed description of how the person is "affected" by the notice of appeal and

c. The reasons why the person should be included in the appeal; and

d. The signature of the person submitting the request.

Intervener status

The Committee may also invite or permit someone to participate in a hearing as an intervener. Interveners are generally individuals or groups that do not meet the criteria to become a party (i.e. "may be affected by the appeal") but have sufficient interest in, or some relevant expertise or view in relation to the subject matter of the appeal.

Someone wanting to take part in an appeal as an intervener should send a written request to the Committee. The written request should contain the following information: (to be determined by RPC)

Prior to inviting or permitting a person to participate in a proceeding as an intervener, or deciding on the extent of that participation, the Committee will provide all parties with an opportunity to make representations if they wish to do so.

Type of appeal (written or oral) hearing

An appeal may be conducted by way of written submissions, oral hearing or a combination of both. The Committee will determine the appropriate type of appeal after a complete notice of appeal has been received.

The Committee will normally conduct an oral hearing although it may order that a hearing proceed by way of written submissions in certain cases. Where a hearing by written submissions is being considered by the Committee, the Committee may request input from the parties.

Burden of proof

The general rule is that the burden or responsibility for proving a fact is on the person who asserts it.

Notification of expert evidence

The Committee requires any party that intends to present expert evidence at a hearing to provide the Committee, and all other parties to the appeal, with reasonable advance notice that an expert will be called to give an opinion. The notice should include a brief statement of the expert's qualifications and areas of expertise.

If a party intends to produce, at a hearing, a written statement or report prepared by an expert, a copy of the statement or report should be provided to the Committee and all parties to the appeal within a reasonable time before the statement or report is given in evidence. Unless there are compelling reasons for later admission, expert reports should be distributed 30 days prior to the hearing date.

Documents

If a party will be referring to a document that was not provided to the Committee and all parties prior to the hearing, sufficient copies of the document must be brought to the hearing for the Committee and all other parties.

APPEALING THE APPEALS SUBCOMMITTEE'S DECISION

If a party is not satisfied with the decision of the Region's Appeals Subcommittee's Decision, he or she can appeal that decision to the 700 MHz National Planning Oversight Committee.

Appendix K National Coordinating Committee "Check-off" Sheet

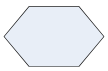
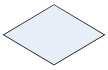
Regional Plan Element	Check	Rule Section
Cover letter referencing Docket # 02-378 and identifying the document as the 700 MHz Regional Plan for the Region	**Yes**	Public Notice DA-02-3497
Name, Title, address, phone number, agency affiliation, email address of Chairperson	**Yes**	90.527(a)(1)
Names, agency affiliations, voting status, mailing addresses, phone numbers, email addresses (if available) of other RPC officers	**Yes**	90.527(a)(1)
A statement that at least 60 days notice was given prior to the first meeting	**Yes**	1st R&O, FN220
A summary of the major elements of the plan and an explanation of how all eligible entities w/in the Region were given an opportunity to participate and have their positions heard and considered fairly.	**Yes**	90.527(a)(2)
Definition of the Region and its boundaries, a list of the counties and cities within the boundaries	**Yes**	90.527(a)(2)
Overview of public safety entities that have jurisdiction within or over any or all portions of the Region (state agencies, federal agencies, etc.)	**Yes**	90.527(a)(2)
Description of the types of public safety, law enforcement, government, public service, or other entities (federal, county, regional, city, town etc.) that are included in the Region.	**Yes**	90.527(a)(2)
The dates and publications in which the meetings were announced	**Yes**	90.527(a)(2)
The dates and websites on which the meetings were announced	**Yes**	90.527(a)(2)
A description of the process by which comments were solicited from all eligible parties	**Yes**	90.527(a)(2)
Summary of all comments and submissions obtained through the process	**Yes**	90.527(a)(2)
A description of the process used to consider comments submitted from concerned parties	**Yes**	90.527(a)(2)
The guidelines and procedures for operation of the RPC	**Yes**	90.527(a)(2)
The procedures for frequency coordination	**Yes**	90.527(a)(2)
Guidelines and procedures for protection of incumbent TV/DTV stations within the Region or near the Region's border during the DTV transition period	**Yes**	90.527(a)(2)
A copy of the RPC's bylaws	**Yes**	90.527(a)(3)
The technical procedures for requesting channels	**Yes**	90.527(a)(3)
An overview of the application process	**Yes**	90.527(a)(3)
An explanation of how the RPC decided between competing	**Yes**	90.527(a)(3)

agencies when more requests for spectrum were received than could be filled. What criteria was used to evaluate competing applications to determine which request was granted?		
An explanation of how the RPC decided how the spectrum would be allocated, e.g. by population; how applications were solicited, e.g. on a first-come, first-served basis or only during certain filing windows. An explanation of channel recovery methods will be applied w/in the Region.	**Yes**	90.527(a)(4)
A description of how the applications are handled and reviewed, including an explanation of how the RPC applies the evaluation criteria listed in item 3	**Yes**	90.527(a)(4)
Spectrum utilization agreements with other Regions	**Yes**	90.527(a)(5)
If the State bears responsibility for administering the interoperability channels, the Regional Plan must indicate how the Region will interact with the SIEC or similar body.		
If the RPC is responsible for administering the I/O channels, see the check points below the bold type.	**Yes**	90.525(b)
Description of the pre-coordination allotment method used at the Region's borders	**Yes**	90.527(a)(5)
Concurrence from the Chairs of the adjacent Regions **OR** evidence that the RPC used the NCC Implementation Subcommittee's 'pre-planning proposal' to reserve some portion of the 700 MHz spectrum at the RPC borders for the adjacent Region(s).	**Yes**	90.527(a)(5)
If any of the adjacent Regions have not yet convened or selected a convener, the Plan must include a waiver of 90.527(a)(5)	**Yes**	90.527(a)(5)
An explanation of how the RPC encouraged spectrum re-use and promoted spectrally efficient technologies to make the most efficient use of the spectrum	**Yes**	90.527(a)(6)
An explanation of how the RPC will maintain the pre-coordination database, provide opportunities for future modifications of the plan	**Yes**	90.527(a)(7)
Inter-Regional Dispute Resolution agreements signed by the Chair of the Adjacent Region(s)	**Yes**	90.527(a)(7)
A certification by the RPC chair that all RPC meetings were open to the public	**Yes**	90.527(a)(8)
Signature of the RPC chair	**Yes**	90.527(a)(8)
The following items would constitute a Section that would be required only if the RPC had assumed responsibility for administering the 700 MHz Interoperability Channels		
If the RPC bears responsibility for administering the interoperability channels, Section 9 of the Regional Plan must include: 1) a list of the interoperability channels; 2) a definition of when and where the two calling channels are to	**N/A**	90.525(b)

be used, including monitoring requirements; 3) description of how the interoperability channels will be deployed and used in the Region, including procedures to extract interoperability channels being used in the trunked mode when necessary; channel nomenclature, minimum channel quantity, channel access parameters; 4) priority access levels to be used on the interoperability channels		
Description of existing interoperability contracts, compacts, mutual aid agreements, etc.	**N/A**	90.525 (b)
Description of the effect of the addition of 700 MHz channels and interoperability requirements on existing plans	**N/A**	90.525(b)
Descriptions of the Region's interoperability plans and interoperability requirements	**N/A**	90.525(b)

Appendix L - Flowchart Symbol Legend

Table 8, Symbol Legend[19] for Application Review Flowchart

Symbol	Use
	The Connector symbol represents the exit to, or entry from, another part of the same flow chart. It is used to break a flow line that will be continued elsewhere.
	The Manual Operation symbol in this flowchart indicates the first event in the process.
	The Preparation symbol represents a modification or instance of a process.
	The Process symbol represents any process, function, or calculation.
	The Decision symbol is a junction at which decision must be made. A single entry may have any number of alternative solutions, but only one can be chosen.
	The Off-page connector symbols are used to indicate the flow chart continues on another page.
	The Activity symbol represents an action taken by the RPC or the FCC.
	The Stored Data symbol indicates the assigned point values that are summed to determine the total service point value the applicant shall receive.

[19] Reference: Patton & Patton Software Corporation – *Basic Flowchart Symbols*

Appendix M – Interoperability with Federal Agencies

How to Use the National Interoperability Frequency Guide

What is the "National Interoperability Frequency Guide"?

The "National Interoperability Frequency Guide" (NIFG) is a listing of land mobile radio (LMR) frequencies that are often used in disasters or other incidents where radio interoperability is required.

The NIFG has three parts: general groups of frequencies; frequencies assigned to a particular function; and general conditions for use of these frequencies.

Terms used in this document:

FCC – Federal Communications Commission
FCC Rules – contained in Title 47, Code of Federal Regulations (47CFR)
Federal – used herein to differentiate between radio stations of the United States Government and those of any State, tribal, local, or regional governmental authority. The NTIA Manual uses the terms "Government" and "non-Government". To avoid the possible confusion of State government officials thinking they are Government rather than non-Government, the term "Federal" is used.
NCC - the Public Safety National Coordination Committee (NCC), a Federal Advisory Committee formed by the FCC to advise it on interoperability
NPSTC – the National Public Safety Telecommunications Council is a federation of organizations whose mission is to improve public safety communications and interoperability through collaborative leadership. After the charter for the NCC expired, NPSTC continued NCC's efforts to establish a common channel nomenclature. NPSTC channel IDs used in the NIFG are based on NPSTC's Channel Naming Task Group Report of Committee, dated 2/19/2007; see http://www.npstc.org/channelNaming.jsp. This proposal will be considered for adoption by NPSTC on June 13, 2007. It the proposal is modified prior to adoption, channel names used in the NIFG may require revision.
NTIA – National Telecommunications and Information Administration
NTIA Manual – The NTIA "Manual of Regulations and Procedures for Federal Radio Frequency Management"
http://www.ntia.doc.gov/osmhome/redbook/redbook.html

How is the NIFG used?
The NIFG may be used by radio technicians when programming channels in radios. We recommend having these channels programmed in radios at all times rather than waiting until a disaster is imminent or occurring to do the programming.

Don't I need a license for these channels before programming them into radios?
A license (for non-Federal radio users) or an authorization (for Federal users) is required only to TRANSMIT on an LMR radio frequency. No license or authorization is required to program the frequencies into radios.

How can I use these frequencies if I don't have a license for them?
There are six ways you can legally use these radio frequencies:

You or your employer may already have a Federal Communications Commission (FCC) license or a National Telecommunications and Information Administration (NTIA) authorization for some of these frequencies, or may be covered by a higher authority's license.

The non-Federal National Mutual Aid Channels are covered by a "blanket authorization" from the FCC for mobile operation, but base stations and control stations still require individual licenses (see FCC 00-348, released 10/10/2000, paragraph 90). This applies to the "Non-Federal VHF National Mutual Aid Channels," "Non-Federal UHF National Mutual Aid Repeater Channels," and "Non-Federal 800 MHz National Mutual Aid Repeater Channels".

In extraordinary circumstances, the FCC may issue a "Special Temporary Authority" (STA) for such use in a particular area.

In extraordinary circumstances, the NTIA may issue a "Temporary Assignment" for such use in a particular area.

If you are an FCC licensee, you may operate a mobile station on the Federal Interoperability Channels only when invited or approved to do so by a Federal Government radio station authorized by the NTIA to use those channels, and only for the purpose of interoperability with Federal Government radio stations. You may not use these channels for interoperability with other State, tribal, regional, or local radio stations – these are not a substitute for your regular mutual aid channels. Your use of these Federal channels is done under the auspices of your FCC license; any misuse subjects you or your employer to FCC fines and/or possible license revocation.

When necessary for the IMMEDIATE protection of life or property, radio users may use prudent measures beyond the specifics of their license:

(FCC rules)

47 CFR § 90.407 Emergency communications.

"**The licensee of any station authorized under this part may, during a period of emergency in which the normal communication facilities are disrupted as a result of hurricane, flood, earthquake or similar disaster, utilize such station for**

emergency communications in a manner other than that specified in the station authorization or in the rules and regulations governing the operation of such stations. The Commission may at any time order the discontinuance of such special use of the authorized facilities." [49 FR 36376, Sept. 17, 1984]

47 CFR § 90.411 Civil defense communications.

"**The licensee of any station authorized under this part may, on a voluntary basis, transmit communications necessary for the implementation of civil defense activities assigned such station by local civil defense authorities during an actual or simulated emergency, including drills and tests. The Commission may at any time order the discontinuance of such special use of the authorized facilities**". [49 FR 36376, Sept. 17, 1984]

(NTIA rules)

7.3.1 Emergency Communications

In an emergency it is permissible to operate temporarily on regularly assigned frequencies in a manner other than that specified in the terms of an existing assignment or on other appropriate frequencies under the following special circumstances:

An emergency must actually exist or imminently threaten. An emergency for the purpose of this provision means a situation of temporary duration resulting directly or indirectly from a natural catastrophe or other occurrence that seriously affects the welfare of a community or of an area to the extent of endangering human life and property and in connection with which special communication facilities are required temporarily. Emergency operations shall be discontinued as soon as substantially normal communication facilities are restored.

7.3.4 Emergency Use of Non-Government Frequencies

In emergency situations a government radio station may utilize any frequency authorized to a non-government radio station, under Part 90 of the FCC Rules and Regulations, when such use is necessary for communications with non-government stations and is directly related to the emergency at hand. Such use is subject to the following conditions:

a. The non-government licensee has given verbal or written concurrence.
b. Operations are conducted in accordance with the FCC Rules and Regulations.
c. Use is restricted to the service area and station authorization of the licensee.
d. All operations are under the direct control of the licensee and shall be immediately terminated when directed by the licensee.
e. Operations do not exceed 60 days.

f. A written report of each such use shall be provided, through the agency's FAS representative, to the FCC as soon as practicable.

7.5.2 Frequencies Authorized by the FCC for Ship Stations

Frequencies authorized by the Federal Communications Commission for ship stations may be used by Government mobile stations to communicate with non-Government stations in the maritime mobile service.

7.5.3 Frequencies for the Safety of Life and Property
…
5. The frequency 40.5 MHz is designated as the military joint common frequency. Use of this channel is limited to communications necessary to establish contact when other channel information is not available and for emergency communications. This frequency also may be used for search and rescue communications.
6. The provisions of this Manual do not prevent mobile stations, or mobile earth stations, in distress from using any frequency at its disposal to attract attention, make known its position, and obtain help. (See ITU Radio Regulation Ap. 13 Part A1, § 3, 1.)

7.5.4 Frequencies for Coordinating Search and Rescue Operations
1. …
2. The frequency 123.1 MHz, using class A3E emission, may be used by stations of the aeronautical mobile service and by other mobile and land stations engaged in coordinated search and rescue operations.
3. The frequency 156.3 MHz may be used for communications between ship stations and aircraft stations, using G3E emission, engaged in coordinated search and rescue (SAR) operations. When control of the scene of a SAR incident is under a Coast Guard coast station, 156.3 MHz may be used by ship stations to communicate with that coast station.

Does the NIFG authorize me to use certain frequencies?

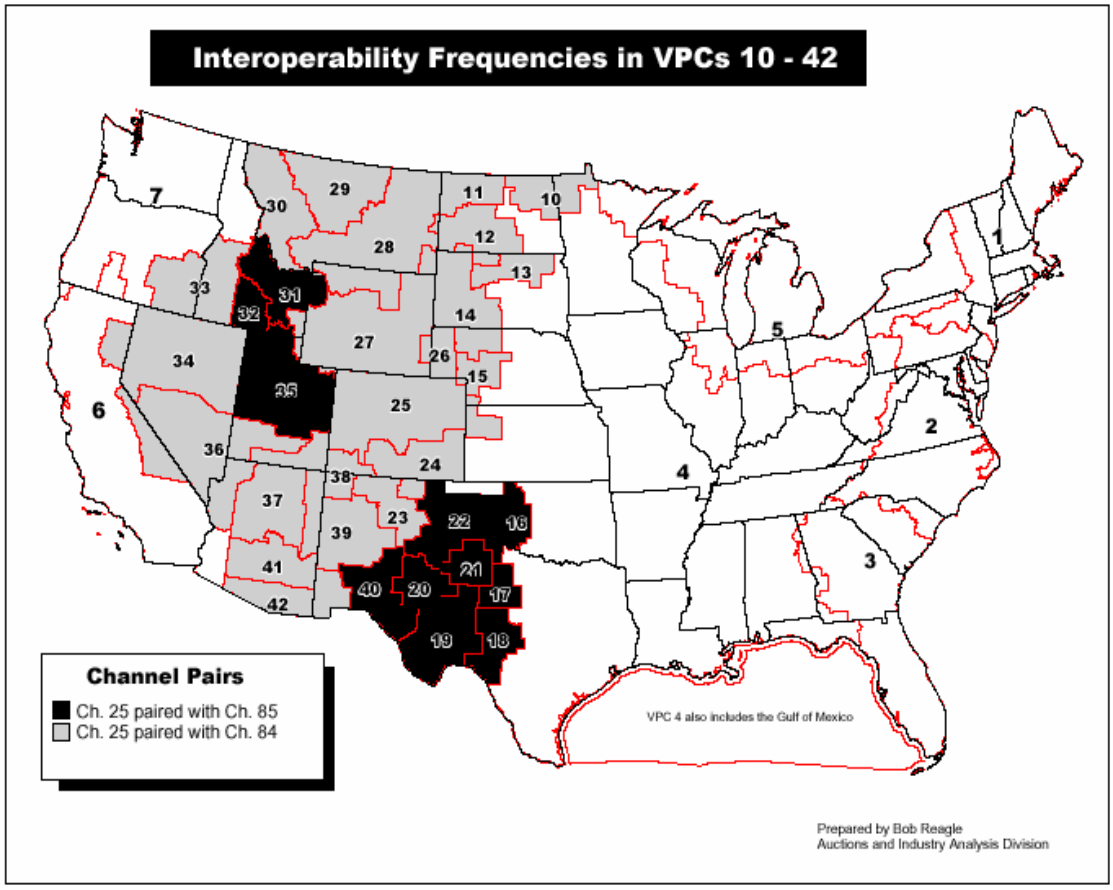
NO. The NIFG does not grant authority to operate on any radio frequencies. Such authority can come only from the FCC or the NTIA.

Is the NIFG the national emergency communications plan?

The NIFG is the national guide for possible use in a situation where no other radio interoperability arrangement was promulgated by local authorities, or where emergency responders are unaware of such an arrangement. The NIFG does NOT supersede any Federal, State, tribal, local, or regional emergency communications plan. If you are dispatched to a disaster or incident scene and have no other information on how to make contact with other emergency responders, the NIFG provides useful suggestions for which frequencies to use to make initial contact.

Are these frequencies clear for this use nationwide?

Not all frequencies are available nationwide for use as described in the NIFG. In particular, the "RTAC" channels ("Non-Federal VHF Inland Mutual Aid Channels") may only be used in certain inland parts of the country, away from coastal areas and major waterways (see the map titled "Interoperability Frequencies in VPCs 10 - 42" below for further details). Other channels in this plan may not be usable due to the potential for adjacent channel interference in some areas, or due to authorized on-channel uses that are different than the common uses described in the NIFG.



For a detailed list of which counties are in which VHF Public Coast (VPC) area, see: http://www.fcc.gov/oet/info/maps/areas/cnty1990/vpccnty1990.txt

Who do I contact to use these channels?

These channels can be used where licensed/authorized by FCC/NTIA, or where authorized under an STA. As part of any coordinated disaster or incident response, there should be a "Frequency Manager" assigning functions to radio channels, and coordinating with the FCC and NTIA for authorization to use additional channels if

needed. At a Federally-declared disaster or Incident of National Significance where a Joint Field Office (JFO) is established, in the Operations Section ESF #2 will have personnel filling the role of Spectrum Manager. Prior to the deployment of ESF #2 to the incident area, the JFO Communications Unit will have a DHS Spectrum Manager serving as the Frequency Manager. ESF #2 works on communications issues affecting the victims and the telecommunications industry; the JFO Communications Unit handles the communications requirements for the emergency responders working through the JFO. Because there will be significant overlap, all of the Spectrum Managers will work together very closely. Check with ESF #2 or the JFO Communications Unit once they are established. Before then, try the calling channels specified in the NIFG at or near the incident scene for all command and control questions.

Does the NIFG specify exactly how to program channels?

Since not all radios are the same, it's impossible to come up with a one-size-fits-all solution. The NIFG relies to a large part on the FCC's National Coordination Committee (NCC) channel nomenclature, and the report of the NPSTC Channel Naming Task Group. For most of the channels, the NCC/NPSTC nomenclature specifies a "direct" ("talk-around") channel for repeaters which takes up an additional memory slot. Some radios have a switch, which permits talk-around on a repeater channel. Using this feature would save memory slots. Similarly, some radios may have a switch or button to enable or disable receive CTCSS; for those radios that don't, another channel could be programmed so both modes would be available. Some of the common mutual aid channels used are wideband in some jurisdictions, but narrowband in others. The NCC/NPSTC nomenclature does not always address how to label the same frequencies with different bandwidths. We encourage programming the wideband interoperability channels with both wide and narrow bandwidths, but we leave it to the radio technicians as to how to distinguish between them on the radio display. Also, it would be advisable to program additional VHF Marine channels as possible interoperability channels (for use when properly authorized), based on local or regional use. In particular, channels used by drawbridge tenders and for Maritime Control may be appropriate; see

http://wireless.fcc.gov/marine/vhfchanl.html or
http://wireless.fcc.gov/marine/vhfchanl.pdf
for authorized channel uses and http://www.navcen.uscg.gov/marcomms/vhf.htm for frequencies.

Should Fire/EMS radios have the Law Enforcement interoperability channels programmed, and vice versa?

All radios should have as many of these interoperability channels programmed as possible. Interoperability means crossing over lines, not only jurisdictional but functional as well. On the Federal interoperability channels, "Incident Response" (IR) means everybody – Fire, Rescue, EMS, Public Works, Transportation, Law Enforcement, etc. The "Law Enforcement" (LE) channels will be used "primarily" for Law Enforcement

activities, but could be designated for other incident support operations if that would not hamper Law Enforcement activities, and if assigned by the agency in control of the incident.

How do emergency responders use the calling channels?

As you approach the incident scene, attempt to make contact on one of the designated calling channels. If it is a repeater channel and you get no response, try the "direct" or "talk-around" mode if your radio has that capability. In some cases, the talk-around channel exists as a distinct channel on the radio. For example, the VHF Incident Response Federal Interoperability Channel is known as "NC 1 Calling" (or "1FCAL40" in the NCC nomenclature). The talk-around for this repeater channel is known as "IR 5" (or "1FCAL40D" in the NCC nomenclature). Using the NCC nomenclature (1FCAL40 / 1FCAL40D) it is easier to see the relationship between the channels.

Try the FCC calling channels (VCALL10, UCALL40, and 8CALL90) and the Federal IR and LE calling channels: "NC 1 Calling" (direct: "IR 5), "NC 2 Calling" (direct: "IR 15"), "LE A", and "LE B". If you are unable to make contact on these channels, consider the wideband interoperability channels – if you are authorized to use them, or if your situation qualifies as "IMMEDIATE protection of life or property". You may be able to learn what you need without transmitting, by just listening to radio traffic on one of these channels.

How do Search and Rescue personnel on land, on watercraft, and on aircraft coordinate by radio?

Certain VHF Marine channels are designated in this plan for Search and Rescue (SAR) interoperability. Searchers on land, in boats, and in aircraft need to be able to communicate with each other to coordinate rescues. There is no VHF channel authorized and readily available to all three communities. Some aircraft involved in SAR have VHF Marine radios, as do most boaters; the VHF radios that many ground SAR groups use are capable of covering the VHF Marine frequencies. We recommend that all SAR participants have the channels in this plan pre-programmed in their radios. VHF Marine channels shall not be used for conventional, terrestrial search and rescue operations – they are in this plan due to the likelihood of boats being involved in SAR in coastal areas. Also, 155.16 MHz is licensed to many SAR organizations. We encourage public safety entities to obtain licenses for this frequency to facilitate interoperability. Likewise, we encourage SAR organizations with VHF radios to program the appropriate VHF Marine channels in their radios and to exercise great restraint in using these channels only when authorized.

How can I get answers to questions about the "National Interoperability Frequency Guide" or this document, "How to Use the National Interoperability Frequency Guide", or how can I offer suggestions to improve them?

Please send your questions or comments to the U.S. Department of Homeland Security, Office of Emergency Communications, at OEC@DHS.GOV and include your name, agency or organization affiliation, and your e-mail address.

National Interoperability Frequency Guide

See page 4 for important information about use of the frequencies in this document. For non-Federal users, an FCC Part 90 license is required for use of these "National Mutual Aid Channels". This document is a recommendation for use of these radio channels. It does not establish any new authority; rules in FCC Part 90 and the NTIA Manual apply in all cases. Digital (P-25) operations on non-Federal interoperability channels should use Network Access Code (NAC) $293.

Non-Federal VHF National Mutual Aid Channels

Description	NPSTC ID	Former ID	Channel (MHz)	CTCSS Tone (Recommend) ±
Calling	VCALL10	VCALL	155.7525 base/mobile	CSQ /156.7 (5A)
Tactical	VTAC11 *	VTAC1 *	151.1375 base/mobile	CSQ /156.7 (5A)
Tactical	VTAC12 *	VTAC2 *	154.4525 base/mobile	CSQ /156.7 (5A)
Tactical	VTAC13	VTAC3	158.7375 base/mobile	CSQ /156.7 (5A)
Tactical	VTAC14	VTAC4	159.4725 base/mobile	CSQ /156.7 (5A)
*VTAC11 and VTAC12 may not be used in PR/VI.				
±Default operation should be carrier squelch receive, CTCSS transmit. If the user can enable/disable CTCSS without reprogramming the radio, the indicated CTCSS tone should also be programmed for receive, and the user instructed how and when to enable/disable.				

Non-Federal VHF Inland Mutual Aid Channels

Base stations: 50 watts max, antenna HAAT 400 feet. max. Mobile stations: 20 watts max, antenna HAAT 15 feet max.					
These channels use **Wideband** FM, and are available only in certain inland areas at least 100 miles from a major waterway					
These channels are VHF Maritime channel 25 (all 33 areas), channel 84 (22 areas), and channel 85 (11 areas). Use only where authorized.					
In these authorized areas, interoperability communications have priority over grandfathered public coast & public safety licensees.					
Description	NPSTC ID	Former ID	Mobile TX (MHz)	Mobile RX (MHz)	VHF Marine Channel
Tactical – wideband FM	VTAC17D	RTAC1	161.8500	161.8500	
Tactical – wideband FM	VTAC17	RTAC1a	157.2500	161.8500	25
Tactical – wideband FM	VTAC18D	RTAC2	161.8250	161.8250	
Tactical – wideband FM	VTAC18	RTAC2a	157.2250	161.8250	84
Tactical – wideband FM	VTAC19D	RTAC3	161.8750	161.8750	
Tactical – wideband FM	VTAC19	RTAC3a	157.2750	161.8750	85

Non-Federal UHF National Mutual Aid Repeater Channels

Description	NPSTC ID	Former ID	Mobile TX (MHz)	Mobile RX (MHz)	CTCSS Tone(Hz) (Recommend) ±
Calling	UCALL40	UCALL	458.2125	453.2125	CSQ/156.7 (5A)
Calling	UCALL40D	UCALL	453.2125	453.2125	CSQ/156.7 (5A)
Tactical	UCALL41	UTAC1	458.4625	453.4625	CSQ/156.7 (5A)
Tactical	UCALL41D	UTAC1	453.4625	453.4625	CSQ/156.7 (5A)
Tactical	UCALL42	UTAC2	458.7125	453.7125	CSQ/156.7 (5A)
Tactical	UCALL42D	UTAC2	453.7125	453.7125	CSQ/156.7 (5A)
Tactical	UCALL43	UTAC3	458.8625	453.8625	CSQ/156.7 (5A)
Tactical	UCALL43D	UTAC3	453.8625	453.8625	CSQ/156.7 (5A)
±Default operation should be carrier squelch receive, CTCSS transmit. If the user can enable/disable CTCSS without reprogramming the radio, the indicated CTCSS tone should also be programmed for receive, and the user instructed how and when to enable/disable.					

Non-Federal 800 MHz National Mutual Aid Repeater Channels*

Description	NPSTC ID	ID	Mobile TX (MHz)	Mobile RX (MHz)	CTCSS Tone (Hz) (Recommended)
Calling	8CALL90	ICALL	821.0125 (806.0125*)	866.0125 (851.0125*)	156.7 (5A)
Tactical	8TAC91	ITAC-1	821.5125 (806.5125*)	866.5125 (851.5125*)	156.7 (5A)

Tactical	8TAC92	ITAC-2	822.0125 (807.0125*)	867.0125 (852.0125*)	156.7 (5A)
Tactical	8TAC93	ITAC-3	822.5125 (807.5125*)	867.5125 (852.5125*)	156.7 (5A)
Tactical	8TAC94	ITAC-4	823.0125 (808.0125*)	868.0125 (853.0125*)	156.7 (5A)
Calling – Direct	8CALL90D	ICALL-D	866.0125 (851.0125*)	866.0125 (852.0125*)	156.7 (5A)
Tactical – Direct	8TAC91D	ITAC-1D	866.5125 (851.5125*)	866.5125 (851.5125*)	156.7 (5A)
Tactical – Direct	8TAC92D	ITAC-2D	867.0125 (852.0125*)	867.0125 (852.0125*)	156.7 (5A)
Tactical – Direct	8TAC93D	ITAC-3D	867.5125 (852.5125*)	867.5125 (852.5125*)	156.7 (5A)
Tactical – Direct	8TAC94D	ITAC-4D	868.0125 (853.0125*)	868.0125 (853.0125*)	156.7 (5A)
*The frequency in parenthesis, which is 15 MHz lower, will be the frequency used after rebanding.					

VHF Incident Response (IR) Federal Interoperability Channel Plan*

Assignment	NCC ID	Note	NTIA ID	Mobile TX(MHz)	Mobile RX(MHz)
Incident Calling	1FCAL40		NC 1 Calling	164.7125	169.5375
Incident Command 1	1FTAC41		IR 1	165.2500	170.0125
Medical Evacuation Control	1FTAC42		IR 2	165.9625	170.4125
Logistics Control	1FTAC43		IR 3	166.5750	170.6875
Interagency Convoy	1FTAC44		IR 4	167.3250	173.0375
Incident Calling (Direct)	1FCAL40D	Direct for NC 1 Calling	IR 5	169.5375 (S)	169.5375
Incident Command 1 (Direct)	1FTAC41D	Direct for IR 2	IR 6	170.0125 (S)	170.0125
Medical Evacuation Control (Direct)	1FTAC42D	Direct for IR 3	IR 7	170.4125 (S)	170.4125
Logistics Control (Direct)	1FTAC43D	Direct for IR 4	IR 8	170.6875 (S)	170.6875
Interagency Convoy (Direct)	1FTAC44D	Direct for IR 5	IR 9	173.0375 (S)	173.0375
*See "Conditions for Use of Federal Interoperability Channels" on page 4 of this document.					

UHF Incident Response (IR) Federal Interoperability Channel Plan*

Assignment	NCC ID	Note	NTIA ID	Mobile TX(MHz)	Mobile RX(MHz)
Incident Calling	4FCAL52		NC 2 Calling	419.2375	410.2375
Ad hoc assignment	4FTAC53		IR 10	419.4375	410.4375
Ad hoc assignment	4FTAC54		IR 11	419.6375	410.6375
SAR Incident Command	4FTAC55		IR 12	419.8375	410.8375
Ad hoc assignment	4FTAC56		IR 13	413.1875 (S)	413.1875
Interagency Convoy	4FTAC57		IR 14	413.2125 (S)	413.2125
Incident Calling (Direct)	4FCAL52D	Direct for NC 2 Calling	IR 15	410.2375 (S)	410.2375
Ad hoc assignment	4FTAC53D	Direct for IR 10	IR 16	410.4375 (S)	410.4375
Ad hoc assignment	4FTAC54D	Direct for IR 11	IR 17	410.6375 (S)	410.6375
SAR Incident Command (Direct)	4FTAC55D	Direct for IR 12	IR 18	410.8375 (S)	410.8375
*See "Conditions for Use of Federal Interoperability Channels" on page 4 of this document.					

VHF Law Enforcement (LE) Federal Interoperability Channel Plan*

Description	NCC ID	Note	NTIA ID	Mobile TX(MHz)	Mobile RX(MHz)
Calling	1FCAL35D		LE A	167.0875 (S)	167.0875
Tactical	1FCAL35		LE 1	162.0875	167.0875
Tactical	1FLAW36		LE 2	162.2625	167.2500
Tactical	1FLAW37		LE 3	162.8375	167.7500
Tactical	1FLAW38		LE 4	163.2875	168.1125
Tactical	1FLAW39		LE 5	163.4250	168.4625
Tactical	1FLAW36D	Direct for LE 2	LE 6	167.2500 (S)	167.2500
Tactical	1FLAW37D	Direct for LE 3	LE 7	167.7500 (S)	167.7500
Tactical	1FLAW38D	Direct for LE 4	LE 8	168.1125 (S)	168.1125
Tactical	1FLAW39D	Direct for LE 5	LE 9	168.4625 (S)	168.4625
*See "Conditions for Use of Federal Interoperability Channels" on page 4 of this document.					

UHF Law Enforcement (LE) Federal Interoperability Channel Plan*

Description	NCC ID	Note	NTIA ID	Mobile TX(MHz)	Mobile RX(MHz)
Calling	4FCAL45D		LE B	414.0375 (S)	414.0375
Tactical	4FLAW46		LE 10	418.9875	409.9875
Tactical	4FLAW47		LE 11	419.1875	410.1875
Tactical	4FLAW48		LE 12	419.6125	410.6125
Tactical	4FLAW49		LE 13	414.0625 (S)	414.0625
Tactical	4FLAW50		LE 14	414.3125 (S)	414.3125
Tactical	4FLAW51		LE 15	414.3375 (S)	414.3375
Tactical	4FLAW46D	Direct for LE 10	LE 16	409.9875 (S)	409.9875
Tactical	4FLAW47D	Direct for LE 11	LE 17	410.1875 (S)	410.1875
Tactical	4FLAW48D	Direct for LE 12	LE 18	410.6125 (S)	410.6125
*See "Conditions for Use of Federal Interoperability Channels" on page 4 of this document.					

Federal / Non-Federal SAR Incident Command Interoperability Plan *

NCC Identifier	ID	Mobile TX(MHz)	Mobile RX (MHz)
4FTAC55	IR 12	419.8375	410.8375
1CAL18	VCALL10	155.7525	155.7525
4CAL31	UCALL40	458.2125	453.2125
8CALL90	8CALL90	821.0125 (806.0125 after rebanding)	866.0125 (851.0125 after rebanding)
n/a	VHF Marine Ch. 6	156.3000	156.3000

Federal / Non-Federal VHF Incident Response Interoperability Channel Plan*

SAR Operations Network Frequencies (MHz)	
Ground Rescue Net (monitor and working)	155.1600 (wideband FM)
Water Rescue Net (monitor and working)	157.0500 (VHF Marine channel 21A, wideband FM)
Emergency Medical Services Net	155.3400 (wideband FM)
Medical Support Net (facility to facility)	155.3400 (wideband FM)
Air Rescue Net (deconfliction)	As specified on standard air chart
C3 Air Platform to Air Rescue Assets	123.1000 AM (civilian) 345.0000 AM (military)
Air Rescue Coordinator to C3 Air Platform	345.0000 AM (military)
Air Rescue Assets to Civilian Rescue Personnel	156.8000 (VHF Marine channel 16, wideband FM)
Air Rescue Assets (monitor and working)	157.1750 (83A)* 345.0000 AM (military)
For more information on VHF Marine channels, see http://www.navcen.uscg.gov/marcomms/vhf.htm	

Public Safety Mutual Aid or Common Channels in VHF and UHF Fixed and Mobile Bands Below 512 MHz *

Rules for use of these channels are contained in 47 CFR 90.20 and NTIA Manual Section 4.3.11 & 7.3.4.

See "Non-Federal VHF National Mutual Aid Channels" and "Non-Federal VHF Inland Mutual Aid Channels" on page 1 of this document.

Channel (MHz)	Usage	Wideband ID	Narrowband ID	Note
155.1600	Search and Rescue Common	SAR WFM	SAR NFM	Not designated by FCC; availability varies.
154.2650 mobile	Fire Mutual Aid	1FIR7	VFIRE22	Not available in Puerto Rico and the Virgin Islands
154.2725	Fire Mutual Aid		VFIRE24	
154.2800 base/mobile	Fire Mutual Aid	1FIR9	VFIRE21	
154.2875			VFIRE25	
154.2950 mobile	Fire Mutual Aid	1FIR11	VFIRE23	
154.3025			VFIRE26	
155.3400 base/mobile	EMS Mutual Aid	1EMS14	VMED28	May be designated for EMS Mutual Aid.
155.3475			VMED29	May be designated for EMS Mutual Aid.
155.4750 base/mobile	Law Enforcement Mutual Aid	1LAW16	VLAW31	
155.4825	Law Enforcement Mutual Aid		VLAW32	

Wideband		UHF MED Channels	Narrowband	
Mobile Rx/Tx (MHz)	ID	Use	Mobile Rx/Tx (MHz)	ID
462.950/467.950	MED-9	EMS Common Dispatch	462.9625/467.9625	MED-93
462.975/467.975	MED-10	EMS Common Dispatch	462.9875/467.9875	MED-102
463.000/468.000	MED-1	EMS Common	463.0125/468.0125	MED-12
463.025/468.025	MED-2	EMS Common	463.0375/468.0375	MED-22
463.050/468.050	MED-3	EMS Common	463.0625/468.0625	MED-32
463.075/468.075	MED-4	EMS Common	463.0875/468.0875	MED-42
463.100/468.100	MED-5	EMS Common	463.1125/468.1125	MED-52
463.125/468.125	MED-6	EMS Common	463.1375/468.1375	MED-62
463.150/468.150	MED-7	EMS Common	463.1625/468.1625	MED-72
463.175/468.175	MED-8	EMS Common	463.1875/468.1875	MED-82

* See "General Conditions" and "Conditions for Use of Federal Interoperability Channels" on page 4 of this document.

Weather Radio Broadcasts – Receive Only (WX1-WX7 US & Canada; WX8-WX9 Canada Marine Weather)							Marine 21B	Marine 83B
WX1	WX2	WX3	WX4	WX5	WX6	WX7	WX8	WX9
162.550	162.400	162.475	162.425	162.450	162.500	162.525	161.850	161.775

GENERAL CONDITIONS

1. The FCC and NTIA rules allow for some flexibility in frequency use by personnel directly involved in a situation where human life or property are endangered. This does NOT mean "In an emergency, anything goes."
2. For communications not covered by #1, your use of a radio frequency must be authorized by:
    a. Your (or your agency's) FCC license or NTIA authorization
    b. "License by rule" – a provision in FCC rules that authorizes use of a radio frequency under specified conditions without a specific license or authorization issued to the user
    c. A "Special Temporary Authority" provided by FCC
3. Digital (P-25) operations on non-Federal interoperability channels should use Network Access Code (NAC) $293.

CONDITIONS FOR USE OF FEDERAL INTEROPERABILITY CHANNELS

1. The "VHF Incident Response (IR) Federal Interoperability Channel Plan", the "UHF Incident Response (IR) Federal Interoperability Channel Plan", the "VHF Law Enforcement (LE) Federal Interoperability Channel Plan", and the "UHF Law Enforcement (LE) Federal Interoperability Channel Plan" show frequencies available for use by all Federal agencies to satisfy law enforcement and public safety incident response interoperability requirements. These frequencies will be referred to hereinafter as "Federal Interoperability Channels".
2. The Federal Interoperability Channels are available for use among Federal agencies and between Federal agencies and non-federal entities with which Federal agencies have a requirement to operate.
3. The channels are available to non-federal entities to enable joint Federal/non-federal operations for law enforcement and incident response, subject to the condition that harmful interference will not be caused to Federal stations. These channels are restricted to interoperability communications and are not authorized for routine or administrative uses.
4. Extended operations and congestion may lead to frequency conflicts. Coordination with NTIA may be required to resolve these conflicts in some areas.
5. Only narrowband emissions are to be used on the Federal Interoperability Channels.
6. Equipment used (transmitters and receivers) must meet the standards established in Section 5.3.5.2 of the NTIA Manual:
   TIA/EIA 603-B for narrowband analog;
   TIA TSB 102,CAAB-A for narrowband digital
7. A complete listing of conditions for use by Federal users can be found in Section 4.3.16 of the NTIA Manual.

INCIDENT RESPONSE PLANS

1. Frequencies 169.5375 MHz (paired with 164.7125 MHz) and 410.2375 MHz (paired with 419.2375 MHz) are designated as the calling channels for initial contact and will be identified in the radio as indicated in the Incident Response Federal Interoperability Channel Plans.
2. Initial contact will be established using narrowband analog FM emission (11KF3E).
3. To ensure access by stations from outside the normal area of operation, Continuous Tone-Controlled Squelch Systems (CTCSS) will not be used on the calling channels.
4. The interoperability channels will be identified in mobile and portable radios as indicated in the "VHF Incident Response (IR) Federal Interoperability Channel Plan" and the "UHF Incident Response (IR) Federal Interoperability Channel Plan".

LAW ENFORCEMENT PLANS

1. Frequencies 167.0875 MHz and 414.0375 MHz are designated as National Calling Channels for initial contact and will be identified in the radio as indicated in the Law Enforcement Federal Interoperability Channel Plans.
2. Initial contact communications will be established using narrowband analog FM emission (11KF3E).
3. The interoperability channels will be identified in mobile and portable radios as indicated in the Law Enforcement Federal Interoperability Channel Plans with Continuous Tone-Controlled Squelch Systems (CTCSS) frequency 167.9 Hz and/or Network Access Code (NAC) $68F.

FEMA 2007

VHF/UHF Frequency List for

Hurricane and Disaster Response Operations

VHF

Repeater Transmit	Repeater Receive	Simplex
1. Texas – R6	138.225	141.875
141.725		
	139.950	142.975
143.625		
	141.850	143.850
2. Louisiana – R6	138.225	141.875
141.725		
	139.950	142.975
143.625		
	141.850	143.850
3. Mississippi – R4	138.225	141.875
141.725		
	139.450	142.425
142.400		
	141.850	143.850
4. Alabama – R4	138.225	141.875
141.725		
	139.450	142.425
142.400		
	141.850	143.850
5. Florida – R4	138.225	141.875
141.725		
	139.450	142.425
142.400		
	141.850	143.850
6. Georgia – R4	138.225	141.875
141.725		
	139.450	142.425
142.400		
	141.850	143.850

7.	South Carolina	138.225	141.875
	141.725		
	R4	139.450	142.425
	142.400		
		141.850	143.850
8.	North Carolina	138.225	141.875
	141.725		
	R4	139.450	142.425
	142.400		
		141.850	143.850
9.	Virginia – R3	138.225	141.875
	141.725		
		139.950	143.250
	142.925		
10.	Maryland – R3	138.225	141.875
	141.725		
		139.950	143.250
	142.925		
11.	Delaware – R3	138.225	141.875
	141.725		
		139.950	143.250
	142.925		
12.	Pennsylvania	138.225	141.875
	141.725		
	R3	139.950	143.250
	142.925		
13.	New Jersey – R2	138.225	141.875
	141.725		
		139.825	143.000
	142.925		
14.	New York – R2	138.225	141.875
	141.725		
		139.825	143.000
	142.925		

15. Connecticut – R1 138.225 141.875
141.725
140.025 143.000
140.900

16. Massachusetts 138.225 141.875
141.725
R1 140.025 143.000
140.900

17. Rhode Island 138.225 141.875
141.725
R1 140.025 143.000
140.900

18. New Hampshire 138.225 141.875
141.725
R1 140.025 143.000
140.900

19. Maine – R1 138.225 141.875
141.725
140.025 143.000
140.900

142.400

20. California – R9 138.225 141.875
141.725
139.825 142.425
142.375

142.975

21. Puerto Rico – R2 138.225 141.875
141.725
139.825 143.000
142.925

22. Virgin Islands 138.225 141.875
141.725
R2 139.825 143.000
142.925

23. Hawaii – R9 138.225 141.875

141.725		
	139.825	143.000
142.975		
	139.450	142.425
142.375		

VHF Notes:

1. 138.225 - No harmful interference allowed within a 75 mile radius of co-channel public safety, Royal Canadian Mounted Police (RCMP) operations throughout Lower British Columbia mainland west of 120 degrees west.

2. 141.725 - Do not use within 75 miles of Victoria and Sidney, British Columbia; West Lorne, Ontario and within 50 miles of Essex, Ontario.

3. 141.875 - Do not use within 75 mile radius at various locations throughout Province of Alberta.

4. There are many different restrictions regarding the periodic, administrative use of the above frequencies on a day-to-day basis around the different regional offices. If there are questions pertaining to these restrictions, refer to the FEMA Frequency Manager.

FEMA UHF
Primarily used by NDMS/US&R/MERS

Repeater Transmit	Repeater Receive
406.2625	415.2625
406.4625	415.4625
406.7250	415.7250
406.8625	415.8625
407.0625	416.0625
407.2625	416.2625
407.4500	416.4500
407.4625	416.4625
407.6625	416.6625
408.0625	417.0625
408.2625	417.2625
408.8625	417.8625
409.0625	418.0625
409.2000	418.2000

409.7250	418.7250
409.2625	418.2625
409.4625	418.4625
409.6625	418.6625
409.8625	418.8625
410.2625	419.2625
410.4625	419.4625
410.6625	419.6625
410.8625	419.8625

UHF Notes: These frequencies are cleared for United States and Possessions (USP) however due to the ongoing transition from wideband to narrowband; prior coordination must be done through the FEMA Frequency Management office. There are and will continue to be geographic restrictions on many of these frequencies until the transition is completed in early 2008.

406.725 - Do not use within 50 km of the Niagara Falls area of Canada.

415.725 - Do not use within 50 km of the Ontario border or the Mount Seymour, British Columbia area.

416.450 - Training exercises not authorized on this frequency. Do not use within 60 km of Metchosin, British Columbia; Windsor, Ontario; St. Catharines, Ontario; Kingston; or within 50 km of the border of the Province of Quebec.

418.200 - Do not use in Montreal and Toronto, Quebec and Phoenix
Mountain.

418.725 - Do not use within 50 km of Keats Island, British Columbia and Brampton, Ontario or the border of the Province of New Brunswick.

Appendix N - Region 28 Standard Propagation Model

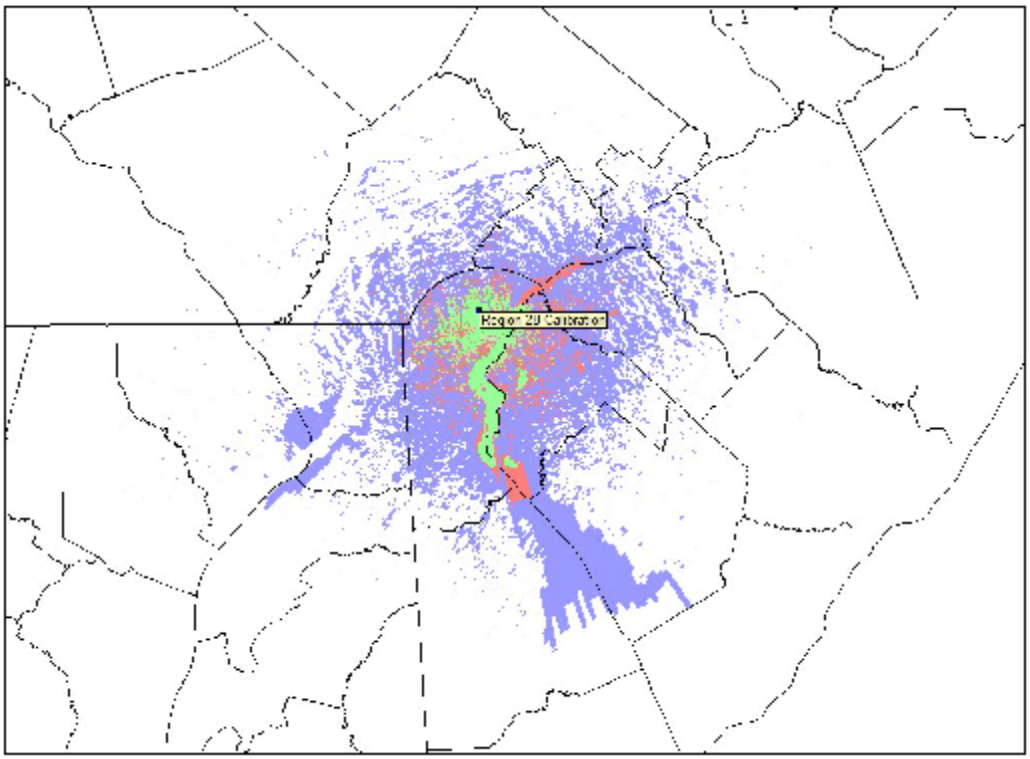
Region 28 understand that there are many differing computer modeling software products that an applicant can utilize to perform the required coverage area restriction calculations, as well as service and interference calculations to other systems. In order not to limit the applicant in the selection of a propagation software product, while still maintaining a quality control on the documents submitted to the Region, we have established a standard propagation model.

The applicant must define the propagation software that is utilized in the application process. This software must be commercially available and have received peer review and be a generally accepted propagation modeling tool. Utilizing the following technical parameters the application will submit a calibration propagation which shows general agreements to the following plot.

Coordinates: 39-45-00 N 075-35-00 W
Site elevation: 43 m AMSL
Antenna radiation center: 45 m AGL
Antenna type: Omni-directional (DB806D or equivalent) Effective
Radiated Power: 150 watts
Frequency: 770 MHz
Prop Model: Longley-Rice

Longley-Rice Parameters

Parameter	**Value**
Time %	50
Location %	50
Confidence %	50
Conductivity (S/m)	0.005
Dielectric constant	15.0
Climate Zone*	Maritime Temperate Over Land
Service Application	Mobile

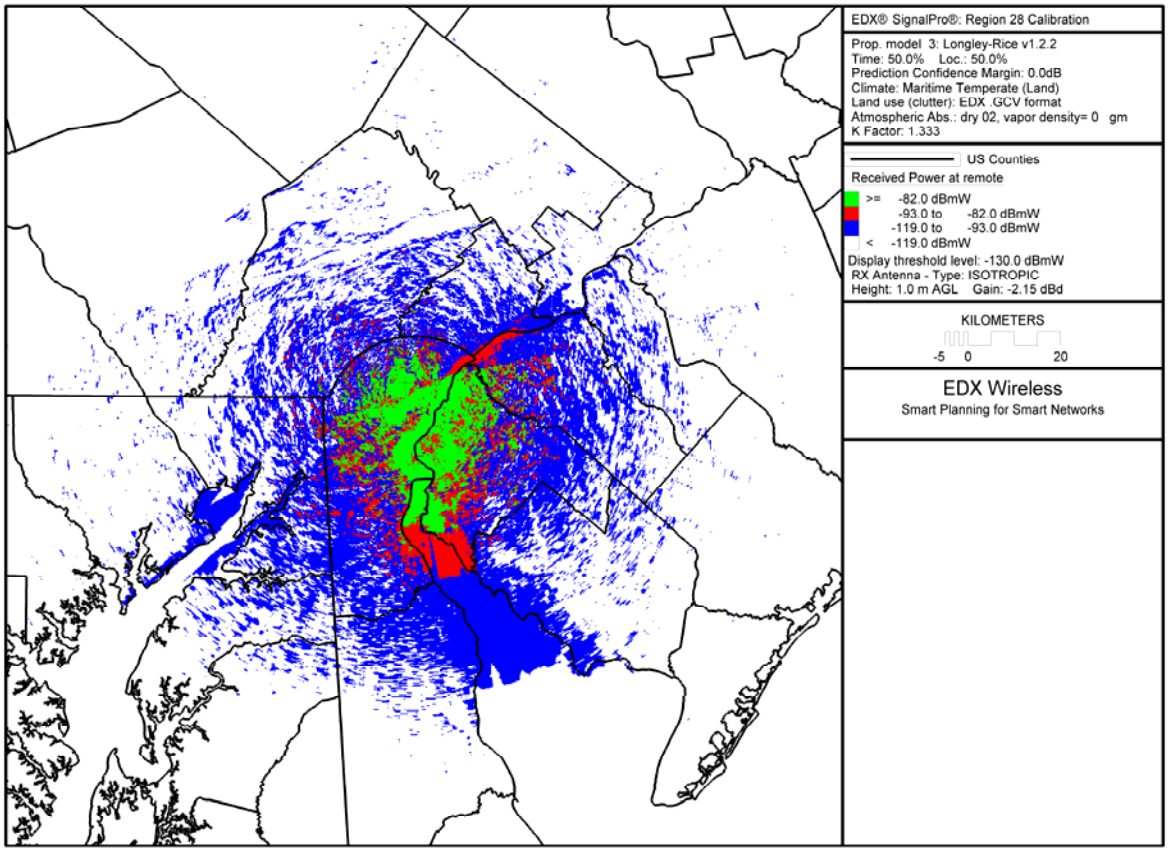


>= -119 dBm

>= -93 dBm

>= -82 dBm

Prediction:R28 Calibration_dbm


EDX® SignalPro®: Region 28 Calibration
Prop. model 3: Longley-Rice v1.2.2
Time: 50.0% Loc.: 50.0%
Prediction Confidence Margin: 0.0dB
Climate: Maritime Temperate (Land)
Land use (clutter): EDX .GCV format
Atmospheric Abs.: dry 02, vapor density= 0 gm
K Factor: 1.333
US Counties
Received Power at remote
>= -82.0 dBmW
-93.0 to -82.0 dBmW
-119.0 to -93.0 dBmW
< -119.0 dBmW
Display threshold level: -130.0 dBmW
RX Antenna - Type: ISOTROPIC
Height: 1.0 m AGL Gain: -2.15 dBd
KILOMETERS
-5 0 20
EDX Wireless
Smart Planning for Smart Networks

Appendix O – Inter-Regional Dispute Procedures

COORDINATION AND DISPUTE RESOLUTION PROCEDURES

BETWEEN 700 MHZ REGIONAL PLANNING COMMITTEES OF

REGION 8 AND REGION 28

I. Introduction

This is a mutually agreed upon Inter-Regional Coordination Procedures and Dispute Resolution Procedures Agreement by and between the 700 MHz Regional Planning Committees of:

- Southern New York State and New Jersey State Region - Region 8 (hereinafter Region 8), and
- Eastern Commonwealth of Pennsylvania, Southern New Jersey State and Delaware State Region - Region 28 (hereinafter Region 28).

Responsible Radiation

For all proposed facilities within the region, 80% of the 50 dBμ (-82 dBm) Protected Service Area (PSA) must lie within the jurisdictional boundary plus an 8 km buffer zone. The 50 dBμ (-82 dBm) PSA shall be assessed using Longley- Rice analyses.

Interference Protection – Co-Channel

The co-channel 15 dBμ (-119 dBm) interfering signal, assessed using Longley-Rice analyses, will be allowed to touch but not overlap the 40 dBμ (-93 dBm) service contour of the system being evaluated. All contours are (50,50).

Interference Protection – Adjacent Channel

For adjacent and alternate channels, the 50dBμ (-82dBm) interfering signal, assessed using Longley-Rice analyses, will be allowed to touch but not overlap the 40 dBμ (–93 dBm) service contour of the system being evaluated. All contours are (50,50).

These procedures will be used when an applicant for 700 MHz spectrum has a proposed service area or interference contour which extends into an adjacent Public Safety Region(s) of the Region receiving the application. Such applications will be reviewed for approval by the affected Region. Service area shall normally be defined as the area included within the jurisdictional boundary of the applicant, plus ~~three (3) miles~~ 8km. Interference contour shall normally be defined as a ~~5~~ 15 dBu co-channel contour, and a ~~65~~ 50dBu contour shall not overlap any adjacent channel's 40 dBu contour. Other definitions of service area or interference may be justified with an accompanying Memorandum of Understanding (MOU) or other application documentation between involved agencies. Each Region retains the right to accept or reject other definitions.

II. COORDINATION PROCEDURES

The following is the guidelines for inter-regional coordination which is acceptable by Region 28.

a. Each Region will announce when it is accepting applications and the parameters that it has established filing applications.
b. Applications by eligible entities will be accepted within each Region's parameters.
c. Regional review and coordination of applications will be conducted. The review will include a technical review resulting in assignment of channels.
d. After Regional review, a copy of those frequency-specific applications requiring adjacent Region approval, including a definition statement of proposed service area, shall then be forwarded to the adjacent Region(s) for review. This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.
e. The adjacent Region will review the application. If the application is approved, this Region will send a letter of concurrence, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days of receipt of the application by the adjacent Region.

III. DISPUTE RESOLUTION

A. If the adjacent Region(s) does not approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond, via email, to the initiating Region. Response will be sent within thirty (30) calendar days of receipt of the application by the adjacent Region. The initiating Region will attempt to modify the application to satisfy the objections of the adjacent Region.

B. If the applying Region cannot modify the application to satisfy the objections of the adjacent Region then, a working group comprised of representatives of the two Regions shall be convened to attempt to resolve the dispute. The working group will be convened within thirty (30) calendar days of the date that the initiating Region received notice from the adjacent Region. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons via email through the CAPRAD database. Findings may include, but not be limited to:

- Unconditional concurrence;
- Conditional concurrence contingent upon modification of applicant's technical parameters; or
- Partial or total denial of proposed frequencies due to inability to meet co-channel/adjacent channel interference free protection to existing licensees within the adjacent Region.

C. If the working group does not resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC), of the National Public Safety Telecommunications Council. Each Region involved in the dispute shall include a detailed

explanation of its position, including engineering studies and any other technical information deemed relevant. The NPOC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD database. The NPOC's decision may support either of the disputing Regions or it may develop a proposal that it deems mutually advantageous to each disputing Region.

D. When adjacent Region concurrence has been secured, and the channel assignments do not change the Region's current Federal Communications Commission (FCC) approved channel assignment matrix, the initiating Region may then advise the applicant(s) that their application may be forwarded to a frequency coordinator for processing and filing with the FCC.

E. Where adjacent Region concurrence has been secured, and the channel assignments changes the Region's current FCC approved channel assignment matrix, then the initiating Region shall file with the FCC a *Petition to Amend* its current frequency matrix, to reflect the new channel assignments. The initiating Region will send a copy of the *Petition* to the adjacent Regional chairperson(s).

F. Upon the FCC's issuance of an *Order* adopting the amended channel assignment matrix, the initiating Regional chairperson will send a courtesy copy of the *Order* to the adjacent Regional chairperson(s). The initiating Region then advises the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

IV. CONCLUSION

A. This agreement contains the entire understanding between Region 8 and Region 28 and supersedes any and all prior understandings, negotiations and agreements, whether written or oral, between them respecting subject matter herein.

B. The parties each bind themselves, successors, assigns and legal representatives with respect to all covenants of this Agreement.

C. This Agreement becomes effective upon the date of the last signatory's signature.

_____ _____

Region 28 Authorized Representative and Title Date

_____ _____

Region 8 Authorized Representative and Title Date

COORDINATION AND DISPUTE RESOLUTION PROCEDURES

BETWEEN 700 MHZ REGIONAL PLANNING COMMITTEES OF

REGION 28 AND REGION 30

I. Introduction

This is a mutually agreed upon Inter-Regional Coordination Procedures and Dispute Resolution Procedures Agreement by and between the 700 MHz Regional Planning Committees of:

- Eastern Commonwealth of Pennsylvania, Southern New Jersey State and Delaware State Region - Region 28 (hereinafter Region 28) and
- Northern New York State Region - Region 30 (hereinafter Region 30).

Responsible Radiation

For all proposed facilities within the region, 80% of the 50 dBμ (-82 dBm) Protected Service Area (PSA) must lie within the jurisdictional boundary plus an 8 km buffer zone. The 50 dBμ (-82 dBm) PSA shall be assessed using Longley- Rice analyses.

Interference Protection – Co-Channel

The co-channel 15 dBμ (-119 dBm) interfering signal, assessed using Longley-Rice analyses, will be allowed to touch but not overlap the 40 dBμ (-93 dBm) service contour of the system being evaluated. All contours are (50,50).

Interference Protection – Adjacent Channel

For adjacent and alternate channels, the 50dBμ (-82dBm) interfering signal, assessed using Longley-Rice analyses, will be allowed to touch but not overlap the 40 dBμ (–93 dBm) service contour of the system being evaluated. All contours are (50,50).

These procedures will be used when an applicant for 700 MHz spectrum has a proposed service area or interference contour which extends into an adjacent Public Safety Region(s) of the Region receiving the application. Such applications will be reviewed for approval by the affected Region. Service area shall normally be defined as the area included within the jurisdictional boundary of the applicant, plus ~~three (3) miles~~ 8km. Interference contour shall normally be defined as a ~~5~~ 15 dBu co-channel contour, and a ~~65~~ 50dBu contour shall not overlap any adjacent channel's 40 dBu contour. Other definitions of service area or interference may be justified with an accompanying Memorandum of Understanding (MOU) or other application documentation between involved agencies. Each Region retains the right to accept or reject other definitions.

II. COORDINATION PROCEDURES

The following is the guidelines for inter-regional coordination which is acceptable by Region 28.

a. Each Region will announce when it is accepting applications and the parameters that it has established filing applications.
b. Applications by eligible entities will be accepted within each Region's parameters.
c. Regional review and coordination of applications will be conducted. The review will include a technical review resulting in assignment of channels.
d. After Regional review, a copy of those frequency-specific applications requiring adjacent Region approval, including a definition statement of proposed service area, shall then be forwarded to the adjacent Region(s) for review. This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.
e. The adjacent Region will review the application. If the application is approved, this Region will send a letter of concurrence, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days of receipt of the application by the adjacent Region.

III. DISPUTE RESOLUTION

A. If the adjacent Region(s) does not approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond, via email, to the initiating Region. Response will be sent within thirty (30) calendar days of receipt of the application by the adjacent Region. The initiating Region will attempt to modify the application to satisfy the objections of the adjacent Region.

B. If the applying Region cannot modify the application to satisfy the objections of the adjacent Region then, a working group comprised of representatives of the two Regions shall be convened to attempt to resolve the dispute. The working group will be convened within thirty (30) calendar days of the date that the initiating Region received notice from the adjacent Region. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons via email through the CAPRAD database. Findings may include, but not be limited to:

- Unconditional concurrence;
- Conditional concurrence contingent upon modification of applicant's technical parameters; or
- Partial or total denial of proposed frequencies due to inability to meet co-channel/adjacent channel interference free protection to existing licensees within the adjacent Region.

C. If the working group does not resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC), of the National Public Safety Telecommunications Council. Each Region involved in the dispute shall include a detailed

explanation of its position, including engineering studies and any other technical information deemed relevant. The NPOC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD database. The NPOC's decision may support either of the disputing Regions or it may develop a proposal that it deems mutually advantageous to each disputing Region.

E. When adjacent Region concurrence has been secured, and the channel assignments do not change the Region's current Federal Communications Commission (FCC) approved channel assignment matrix, the initiating Region may then advise the applicant(s) that their application may be forwarded to a frequency coordinator for processing and filing with the FCC.

E. Where adjacent Region concurrence has been secured, and the channel assignments changes the Region's current FCC approved channel assignment matrix, then the initiating Region shall file with the FCC a *Petition to Amend* its current frequency matrix, to reflect the new channel assignments. The initiating Region will send a copy of the *Petition* to the adjacent Regional chairperson(s).

F. Upon the FCC's issuance of an *Order* adopting the amended channel assignment matrix, the initiating Regional chairperson will send a courtesy copy of the *Order* to the adjacent Regional chairperson(s). The initiating Region then advises the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

IV. CONCLUSION

A. This agreement contains the entire understanding between Region 28 and Region 30 and supersedes any and all prior understandings, negotiations and agreements, whether written or oral, between them respecting subject matter herein.

B. The parties each bind themselves, successors, assigns and legal representatives with respect to all covenants of this Agreement.

C. This Agreement becomes effective upon the date of the last signatory's signature.

_____ _____

Region 28 Authorized Representative and Title Date

_____ _____

Region 30 Authorized Representative and Title Date

COORDINATION AND DISPUTE RESOLUTION PROCEDURES

BETWEEN 700 MHZ REGIONAL PLANNING COMMITTEES OF

REGION 8 AND REGION 28

I. Introduction

This is a mutually agreed upon Inter-Regional Coordination Procedures and Dispute Resolution Procedures Agreement by and between the 700 MHz Regional Planning Committees of:

- Eastern Commonwealth of Pennsylvania, Southern New Jersey State and Delaware State Region - Region 28 (hereinafter Region 28), and
- Northern Virginia State, District of Columbia and Maryland State Region - Region 20 (hereinafter Region 20).

Responsible Radiation

For all proposed facilities within the region, 80% of the 50 dBμ (-82 dBm) Protected Service Area (PSA) must lie within the jurisdictional boundary plus an 8 km buffer zone. The 50 dBμ (-82 dBm) PSA shall be assessed using Longley- Rice analyses.

Interference Protection – Co-Channel

The co-channel 15 dBμ (-119 dBm) interfering signal, assessed using Longley-Rice analyses, will be allowed to touch but not overlap the 40 dBμ (-93 dBm) service contour of the system being evaluated. All contours are (50,50).

Interference Protection – Adjacent Channel

For adjacent and alternate channels, the 50dBμ (-82dBm) interfering signal, assessed using Longley-Rice analyses, will be allowed to touch but not overlap the 40 dBμ (–93 dBm) service contour of the system being evaluated. All contours are (50,50).

These procedures will be used when an applicant for 700 MHz spectrum has a proposed service area or interference contour which extends into an adjacent Public Safety Region(s) of the Region receiving the application. Such applications will be reviewed for approval by the affected Region. Service area shall normally be defined as the area included within the jurisdictional boundary of the applicant, plus ~~three (3) miles~~ 8km. Interference contour shall normally be defined as a ~~5~~ 15 dBu co-channel contour, and a ~~65~~ 50dBu contour shall not overlap any adjacent channel's 40 dBu contour. Other definitions of service area or interference may be justified with an accompanying Memorandum of Understanding (MOU) or other application documentation between involved agencies. Each Region retains the right to accept or reject other definitions.

II. COORDINATION PROCEDURES

The following is the guidelines for inter-regional coordination which is acceptable by Region 28.

f. Each Region will announce when it is accepting applications and the parameters that it has established filing applications.
g. Applications by eligible entities will be accepted within each Region's parameters.
h. Regional review and coordination of applications will be conducted. The review will include a technical review resulting in assignment of channels.
i. After Regional review, a copy of those frequency-specific applications requiring adjacent Region approval, including a definition statement of proposed service area, shall then be forwarded to the adjacent Region(s) for review. This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.
j. The adjacent Region will review the application. If the application is approved, this Region will send a letter of concurrence, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days of receipt of the application by the adjacent Region.

III. DISPUTE RESOLUTION

A. If the adjacent Region(s) does not approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond, via email, to the initiating Region. Response will be sent within thirty (30) calendar days of receipt of the application by the adjacent Region. The initiating Region will attempt to modify the application to satisfy the objections of the adjacent Region.

B. If the applying Region cannot modify the application to satisfy the objections of the adjacent Region then, a working group comprised of representatives of the two Regions shall be convened to attempt to resolve the dispute. The working group will be convened within thirty (30) calendar days of the date that the initiating Region received notice from the adjacent Region. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons via email through the CAPRAD database. Findings may include, but not be limited to:

- Unconditional concurrence;
- Conditional concurrence contingent upon modification of applicant's technical parameters; or
- Partial or total denial of proposed frequencies due to inability to meet co-channel/adjacent channel interference free protection to existing licensees within the adjacent Region.

C. If the working group does not resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC), of the National Public Safety Telecommunications Council. Each Region involved in the dispute shall include a detailed explanation of its position, including engineering studies and any other technical information deemed

relevant. The NPOC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD database. The NPOC's decision may support either of the disputing Regions or it may develop a proposal that it deems mutually advantageous to each disputing Region.

F. When adjacent Region concurrence has been secured, and the channel assignments do not change the Region's current Federal Communications Commission (FCC) approved channel assignment matrix, the initiating Region may then advise the applicant(s) that their application may be forwarded to a frequency coordinator for processing and filing with the FCC.

E. Where adjacent Region concurrence has been secured, and the channel assignments changes the Region's current FCC approved channel assignment matrix, then the initiating Region shall file with the FCC a *Petition to Amend* its current frequency matrix, to reflect the new channel assignments. The initiating Region will send a copy of the *Petition* to the adjacent Regional chairperson(s).

F. Upon the FCC's issuance of an *Order* adopting the amended channel assignment matrix, the initiating Regional chairperson will send a courtesy copy of the *Order* to the adjacent Regional chairperson(s). The initiating Region then advises the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

IV. CONCLUSION

A. This agreement contains the entire understanding between Region 28 and Region 20 and supersedes any and all prior understandings, negotiations and agreements, whether written or oral, between them respecting subject matter herein.

B. The parties each bind themselves, successors, assigns and legal representatives with respect to all covenants of this Agreement.

C. This Agreement becomes effective upon the date of the last signatory's signature.

_____ _____

Region 28 Authorized Representative and Title Date

_____ _____

Region 20 Authorized Representative and Title Date

COORDINATION AND DISPUTE RESOLUTION PROCEDURES

BETWEEN 700 MHZ REGIONAL PLANNING COMMITTEES OF

REGION 28 AND REGION 36

I. Introduction

This is a mutually agreed upon Inter-Regional Coordination Procedures and Dispute Resolution Procedures Agreement by and between the 700 MHz Regional Planning Committees of:

- Eastern Commonwealth of Pennsylvania, Southern New Jersey State and Delaware State Region - Region 28 (hereinafter Region 28), and
- Western Commonwealth of Pennsylvania Region - Region 36 (hereinafter Region 36).

Responsible Radiation

For all proposed facilities within the region, 80% of the 50 dBμ (-82 dBm) Protected Service Area (PSA) must lie within the jurisdictional boundary plus an 8 km buffer zone. The 50 dBμ (-82 dBm) PSA shall be assessed using Longley- Rice analyses.

Interference Protection – Co-Channel

The co-channel 15 dBμ (-119 dBm) interfering signal, assessed using Longley-Rice analyses, will be allowed to touch but not overlap the 40 dBμ (-93 dBm) service contour of the system being evaluated. All contours are (50,50).

Interference Protection – Adjacent Channel

For adjacent and alternate channels, the 50dBμ (-82dBm) interfering signal, assessed using Longley-Rice analyses, will be allowed to touch but not overlap the 40 dBμ (–93 dBm) service contour of the system being evaluated. All contours are (50,50).

These procedures will be used when an applicant for 700 MHz spectrum has a proposed service area or interference contour which extends into an adjacent Public Safety Region(s) of the Region receiving the application. Such applications will be reviewed for approval by the affected Region. Service area shall normally be defined as the area included within the jurisdictional boundary of the applicant, plus ~~three (3) miles~~ 8km. Interference contour shall normally be defined as a ~~5~~ 15 dBu co-channel contour, and a ~~65~~ 50dBu contour shall not overlap any adjacent channel's 40 dBu contour. Other definitions of service area or interference may be justified with an accompanying Memorandum of Understanding (MOU) or other application documentation between involved agencies. Each Region retains the right to accept or reject other definitions.

II. COORDINATION PROCEDURES

The following is the guidelines for inter-regional coordination which is acceptable by Region 28.

k. Each Region will announce when it is accepting applications and the parameters that it has established filing applications.
l. Applications by eligible entities will be accepted within each Region's parameters.
m. Regional review and coordination of applications will be conducted. The review will include a technical review resulting in assignment of channels.
n. After Regional review, a copy of those frequency-specific applications requiring adjacent Region approval, including a definition statement of proposed service area, shall then be forwarded to the adjacent Region(s) for review. This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.
o. The adjacent Region will review the application. If the application is approved, this Region will send a letter of concurrence, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days of receipt of the application by the adjacent Region.

III. DISPUTE RESOLUTION

A. If the adjacent Region(s) does not approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond, via email, to the initiating Region. Response will be sent within thirty (30) calendar days of receipt of the application by the adjacent Region. The initiating Region will attempt to modify the application to satisfy the objections of the adjacent Region.

B. If the applying Region cannot modify the application to satisfy the objections of the adjacent Region then, a working group comprised of representatives of the two Regions shall be convened to attempt to resolve the dispute. The working group will be convened within thirty (30) calendar days of the date that the initiating Region received notice from the adjacent Region. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons via email through the CAPRAD database. Findings may include, but not be limited to:

- Unconditional concurrence;
- Conditional concurrence contingent upon modification of applicant's technical parameters; or
- Partial or total denial of proposed frequencies due to inability to meet co-channel/adjacent channel interference free protection to existing licensees within the adjacent Region.

C. If the working group does not resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC), of the National Public Safety Telecommunications Council. Each Region involved in the dispute shall include a detailed explanation of its position, including engineering studies and any other technical information deemed

relevant. The NPOC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD database. The NPOC's decision may support either of the disputing Regions or it may develop a proposal that it deems mutually advantageous to each disputing Region.

G. When adjacent Region concurrence has been secured, and the channel assignments do not change the Region's current Federal Communications Commission (FCC) approved channel assignment matrix, the initiating Region may then advise the applicant(s) that their application may be forwarded to a frequency coordinator for processing and filing with the FCC.

E. Where adjacent Region concurrence has been secured, and the channel assignments changes the Region's current FCC approved channel assignment matrix, then the initiating Region shall file with the FCC a *Petition to Amend* its current frequency matrix, to reflect the new channel assignments. The initiating Region will send a copy of the *Petition* to the adjacent Regional chairperson(s).

F. Upon the FCC's issuance of an *Order* adopting the amended channel assignment matrix, the initiating Regional chairperson will send a courtesy copy of the *Order* to the adjacent Regional chairperson(s). The initiating Region then advises the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

IV. CONCLUSION

A. This agreement contains the entire understanding between Region 28 and Region 36 and supersedes any and all prior understandings, negotiations and agreements, whether written or oral, between them respecting subject matter herein.

B. The parties each bind themselves, successors, assigns and legal representatives with respect to all covenants of this Agreement.

C. This Agreement becomes effective upon the date of the last signatory's signature.

_____ _____

Region 28 Authorized Representative and Title Date

_____ _____

Region 36 Authorized Representative and Title Date

BETWEEN 700 MHZ REGIONAL PLANNING COMMITTEES OF

REGION 28 AND REGION 55

I. Introduction

This is a mutually agreed upon Inter-Regional Coordination Procedures and Dispute Resolution Procedures Agreement by and between the 700 MHz Regional Planning Committees of:

- Eastern Commonwealth of Pennsylvania, Southern New Jersey State and Delaware State Region - Region 28 (hereinafter Region 28), and
- Western New York State Region - Region 55 (hereinafter Region 55).

Responsible Radiation

For all proposed facilities within the region, 80% of the 50 dBμ (-82 dBm) Protected Service Area (PSA) must lie within the jurisdictional boundary plus an 8 km buffer zone. The 50 dBμ (-82 dBm) PSA shall be assessed using Longley- Rice analyses.

Interference Protection – Co-Channel

The co-channel 15 dBμ (-119 dBm) interfering signal, assessed using Longley-Rice analyses, will be allowed to touch but not overlap the 40 dBμ (-93 dBm) service contour of the system being evaluated. All contours are (50,50).

Interference Protection – Adjacent Channel

For adjacent and alternate channels, the 50dBμ (-82dBm) interfering signal, assessed using Longley-Rice analyses, will be allowed to touch but not overlap the 40 dBμ (–93 dBm) service contour of the system being evaluated. All contours are (50,50).

These procedures will be used when an applicant for 700 MHz spectrum has a proposed service area or interference contour which extends into an adjacent Public Safety Region(s) of the Region receiving the application. Such applications will be reviewed for approval by the affected Region. Service area shall normally be defined as the area included within the jurisdictional boundary of the applicant, plus ~~three (3) miles~~ 8km. Interference contour shall normally be defined as a ~~5~~ 15 dBu co-channel contour, and a ~~65~~ 50dBu contour shall not overlap any adjacent channel's 40 dBu contour. Other definitions of service area or interference may be justified with an accompanying Memorandum of Understanding (MOU) or other application documentation between involved agencies. Each Region retains the right to accept or reject other definitions.

II. COORDINATION PROCEDURES

The following is the guidelines for inter-regional coordination which is acceptable by Region 28.

p. Each Region will announce when it is accepting applications and the parameters that it has established filing applications.
q. Applications by eligible entities will be accepted within each Region's parameters.
r. Regional review and coordination of applications will be conducted. The review will include a technical review resulting in assignment of channels.
s. After Regional review, a copy of those frequency-specific applications requiring adjacent Region approval, including a definition statement of proposed service area, shall then be forwarded to the adjacent Region(s) for review. This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.
t. The adjacent Region will review the application. If the application is approved, this Region will send a letter of concurrence, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days of receipt of the application by the adjacent Region.

III. DISPUTE RESOLUTION

A. If the adjacent Region(s) does not approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond, via email, to the initiating Region. Response will be sent within thirty (30) calendar days of receipt of the application by the adjacent Region. The initiating Region will attempt to modify the application to satisfy the objections of the adjacent Region.

B. If the applying Region cannot modify the application to satisfy the objections of the adjacent Region then, a working group comprised of representatives of the two Regions shall be convened to attempt to resolve the dispute. The working group will be convened within thirty (30) calendar days of the date that the initiating Region received notice from the adjacent Region. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons via email through the CAPRAD database. Findings may include, but not be limited to:

- Unconditional concurrence;
- Conditional concurrence contingent upon modification of applicant's technical parameters; or
- Partial or total denial of proposed frequencies due to inability to meet co-channel/adjacent channel interference free protection to existing licensees within the adjacent Region.

C. If the working group does not resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC), of the National Public Safety Telecommunications Council. Each Region involved in the dispute shall include a detailed explanation of its position, including engineering studies and any other technical information deemed

relevant. The NPOC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD database. The NPOC's decision may support either of the disputing Regions or it may develop a proposal that it deems mutually advantageous to each disputing Region.

H. When adjacent Region concurrence has been secured, and the channel assignments do not change the Region's current Federal Communications Commission (FCC) approved channel assignment matrix, the initiating Region may then advise the applicant(s) that their application may be forwarded to a frequency coordinator for processing and filing with the FCC.

E. Where adjacent Region concurrence has been secured, and the channel assignments changes the Region's current FCC approved channel assignment matrix, then the initiating Region shall file with the FCC a *Petition to Amend* its current frequency matrix, to reflect the new channel assignments. The initiating Region will send a copy of the *Petition* to the adjacent Regional chairperson(s).

F. Upon the FCC's issuance of an *Order* adopting the amended channel assignment matrix, the initiating Regional chairperson will send a courtesy copy of the *Order* to the adjacent Regional chairperson(s). The initiating Region then advises the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

IV. CONCLUSION

A. This agreement contains the entire understanding between Region 28 and Region 55 and supersedes any and all prior understandings, negotiations and agreements, whether written or oral, between them respecting subject matter herein.

B. The parties each bind themselves, successors, assigns and legal representatives with respect to all covenants of this Agreement.

C. This Agreement becomes effective upon the date of the last signatory's signature.

_____ _____

Region 28 Authorized Representative and Title Date

_____ _____

Region 55 Authorized Representative and Title Date

Appendix P – Guidelines for Section 9.0

1.1 Guidelines for Section 9.1, Recommended System Reliability

No guidelines are provided for Section 9.1.

1.2 Guidelines for Section 9.2, Coverage-and Interference-Prediction Methodology

This section further clarifies the Longley-Rice (L-R) parameters that the Technical Subcommittee is expecting the applicant to follow when invoking the L-R model. This states the necessary propagation modeling parameters to reasonably ensure that propagation modeling results and interference calculations are consistent and repeatable. These settings shall be followed:

- The Longley-Rice propagation model version 1.2.2 shall be employed
- All Longley-Rice NTIA error codes shall be ignored
- The Land Use Land Clutter attenuation values given in TSB-88 (latest edition), Section 6.6.1 Table 17, shall be employed in the prediction model
- A mobile receive antenna height of 2 meters and a portable receive antenna height of 1 meter shall be employed

Further, the following parameters given in Table 1 shall be employed as the baseline Longley-Rice parameters in the model:

Table 1, Longley-Rice Parameters

Parameter	Value
Time %	50
Location %	50
Confidence %	50
Conductivity (S/m)	0.005
Dielectric constant	15.0
Climate Zone*	Maritime Temperate Over Land
Service Application	Mobile

** The Technical Subcommittee requires applicants use Maritime Temperate Over Land for the Climate Zone setting when performing L-R calculations. This Climate Zone setting shall be used as the RPC 28 baseline for Longley-Rice calculations. Applicants may use other Climate Zones but shall identify which Climate Zones were used in their applications and give an explanation for the change.*

1.3 Guidelines for Section 9.3, Responsible Radiation Control and System Design

This subsection represents part of a two-step process to ensure proper spectrum coordination by controlling RF power. This subsection intends to control the amount of power that is propagating

beyond the PSA of a given applicant.

1.3.1 Definition of the PSA

The protected service area is the jurisdictional boundary of the applicant. Be that county, town, city, or region. Therefore, the jurisdictional boundary of the applicant is not limited to county size. It can be larger, smaller, or encompass a number of counties or parts of a county. The required 8 km (or 5 mile) buffer cited in this section is an additional boundary to the PSA and not part of the PSA.

1.3.2 The Extent of the L-R Propagation

The intent of this section is to keep 80% of the overall radiation within the PSA and the buffer. We here define a second outermost boundary for the purposes of where the maximum extent of the propagation shall be considered. That outermost boundary is 70 miles from the PSA boundary. This value (70 miles or 113 km) is consistent with the desired range for similar considerations in RPC 8's 800 MHz plan and the rules in 47 CFR Part 90.621. Therefore, the process would be to:

- Take each site under study and run L-R for it as specified in subsection 9.2 and create a matrix containing the strongest signal at each tile.
- Calculate the sum of all the tiles within the 113 km boundary that are ≥ 50 dBμ (-82 dBm). That area shall represent the possible sum of all the tiles for the study. Call that the sum N.
- Sum all the points within the PSA plus 8 km that are ≥ 50 dBμ (-82 dBm) and call that M. This value (M) shall be 80% or greater than N, or stated mathematically.

1.3.3 Check for Incursions into Co and Adjacent Allotments

Since the intent of the outcome of Sections 9.3 and 9.4 is to result in responsible radiation control for the purposes of minimizing or eliminating interference on allotments (in-pool assignments) and incumbents, it is the responsibility of the applicant to demonstrate that his design does not exceed the ARD for co- and adjacent allotments and users over their entire PSA.
To that end, applicants are expected to demonstrate for the entire PSA that they have either,

- No RF incursions into any co- and adjacent allotments and incumbents, and
- If there is an RF incursion into any co- or adjacent allotments or incumbents, that the incursion can represent no more than 2.5% ARD over the entire PSA (per the process in Section 9.4 of the Plan).

1.3.4 Determining Co and Adjacent Allotments

It is the responsibility of the applicants to determine all the co- and adjacent allotments and users over the 113 km distance from their PSA. Commensurate to that, an applicant can use the CAPRAD site to make that determination. It should be noted that this is a requirement for all co- and adjacent allotments and users over the 113 km distance from their PSA not just the co- and adjacent allotments and users within RPC 8. When considering the 113 km range, the applicant should include all co and adjacent CAPRAD county boundaries that are included or cut by that boundary. If the 113 km boundary just cuts through a CAPRAD county boundary (partial boundary) then the entire CAPRAD county boundary needs to be considered in the co and adjacent ARD calculations.

1.3.5 Required Submittal Exhibits.

Applicants shall submit graphical representations of the propagation coverage for each of the sites in their application that show all of the co- and adjacent county pooled allocations (per CAPRAD).

Given that in most cases this is likely to make it difficult for the subcommittee to visually determine if an incursion has occurred, the applicant shall submit detailed drawings for the coverage of each site detailing the counties individually that are co- and adjacent allotments and incumbents.

Please note: These drawing submittals do not relieve the applicant of the required electronic submittal for each site's propagation matrix. The evaluation committee may require that the applicant make a presentation to clarify technical issues regarding his application. This presentation shall take place at a time and location to be determined by the Technical Subcommittee.

1.4 Guidelines for Section 9.4, Pool-to-Pool Reliability Degradation Threshold

This Section's intent is to detail the process for determining ARD; which is the Plan's methodology for determining interference and the extent of allowable interference. The process of ARD can be completed using a number of commercially available applications and software tools.

CAPRAD was designed to minimize interference and maximize frequency reuse, yet there still is a possibility that interference could exist due to individual system designs. If the applicant can graphically, or in a table, demonstrate that no incursion > -119 dBm occurs, then the applicant does not have anything further to report.

Applicants who have some incursion of radio energy into a co- or adjacent allotment boundary (i.e., CAPRAD county boundary) must demonstrate to the committee that they do not exceed the ARD power level in more than 2.5% of this protected boundary (e.g. the "victim" boundary). There may not be a single software application that is a complete solution to determine ARD.

Applicants may have to calculate site matrixes in one application then manipulate those matrixes in another software tool such as a GIS tool or a spreadsheet. For example, one could use an application that calculates a L-R matrix for a proposed site (i.e., RSSI and Lat. /Lon.). Applicants could then Export it to a spreadsheet file to filter only the geo-located tiles (~3 to 9 arc seconds) from the tiles that the site matrix has in common with a co- or adjacent county PSA. If the ARD determination results in an ARD that is ≤ 2.5%, the applicant has demonstrated compliance with Section 9.4 of the plan.

This means that if a site has co-channel RF power above -119 dBm (or adjacent channel power adjusted by lowering signal by 40 dB that remains above -119 dBm), then the victim's reliability in all (ubiquitous) locations at that value is considered below 90% reliable. Therefore, the applicant must determine the number of tiles (at the desired resolution, e.g., 3 to 9 arc seconds) that this incursion has affected in the victim boundary and report that (as a percentage of the entire victim's PSA) to the Technical Subcommittee.

1.4.1 Process for Calculating ARD to Unused Pool Assignments (Using the Ubiquitous Coverage Rule)

Using the CAPRAD database, all CAPRAD identified co- and adjacent allotments need to be considered for ARD consistent with section 9.4 of approved plan. Protection must be provided to the entire PSA intersected by the applicant's 113 km boundary (boundary as detailed in Section 1.3.2).

To accomplish the determination of ARD, the Faded Performance Threshold (FPT) parameter needs to be part of the stated unused parameters given in Section 9.4 of the plan. Based on the parameters given in the plan, the FPT is calculated to be -101 dBm (-119 dBm + 18 dB). The process to calculate the signal level that provides 90% reliability based on the formula given in the plan (which is for reliability in the presence of noise only) is:

- Employing the 90% one-tailed Z value (1.28) and the plan's given standard deviation value of 7 dB, calculate the reliability margin. In this case, it is calculated to be ≈ 9 dB (1.28 X 7 dB).
- Add the calculated reliability margin (9 dB) to the FPT value (-101 dBm) to arrive at the signal level of -97 dBm, which is the signal level that provides 90% reliability in this instance.
- Calculate the total margin needed to provide for the plan's given Channel Performance Criterion (CPC) and calculated reliability margins. In this case (when using the Ubiquitous Coverage Rule), it is the sum of the plan's given CPC value of 18 dB and the calculated reliability margin of 9 dB, for a total margin of 27 dB.
- Subtract the total margin value of 27 dB from the 90% reliability signal level of -97 dBm to at arrive at a signal level of -119 dBm. Therefore, any interfering signal level > -119 dBm will cause a loss of reliability.

For applicants that have simulcast systems planned or plan to have technology that will result in multiple co-channel signals arriving at a given co- or adjacent location at the same time, we detail acceptable methods for combining multiple interfering signal levels for multiple sites.

All applicants should note that the Technical Subcommittee will assume simultaneous signals arriving at a co- or adjacent allotment from co-channel applicants. This assumption will be made in order to determine that the allotment or incumbent (being protected) does not exceed 5% total ARD consistent with Section 9.4 of the approved plan. To that end, one of these three methods will be employed:

- The Monte Carlo method, as detailed in TSB-88.2–C (see Section 6.10.2 Page 80)
- The linear summing method (simple addition of the signal levels in watts and then converting back to dBm a/k/a superposition), as detailed in TSB-88.2–C (see Section 5.4.5 Page 37)
- The Equivalent Interferer Method, as detailed in TSB-88.2–C (see Section 6.10 Page 77)

The final steps in the process to calculate the ARD based on unused pool assignments having ubiquitous coverage are:

- For the County being investigated, determine the total number of tiles (from the propagation prediction matrix) within the entire County
- Total the number of tiles (from the propagation prediction matrix) within the entire County that are ≤ -119 dBm
- To calculate the ARD, divide the number of tiles ≤ -119 dBm by the total number of tiles and subtract this value from one

1.5 Guidelines for Sections 9.5 and Sections 9.6, Outside-to-Pool Reliability Degradation Threshold and Evaluation of Adjacent-Channel Effects

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The subcommittee has no guidelines at this time for Section 9.5, just the position that this section is likely to be immaterial for Window One. It is deemed that Section 9.5 will be inconsequential to the first Window process. Section 9.6 is principally intended to evaluate applications with one bandwidth to another. In the first window, this would not be very relevant to applications, as applicants are primarily protecting allotments under the ubiquitous rule only. Therefore, the Technical Subcommittee instructs (as a guideline for Window One applicants) that applicants consider the Adjacent-Channel Coupled Power Ratio value (ACCPR) for the purposes of ARD on adjacencies to be 40 dB as needed to consider the ubiquitous rule only. Any overlap not covered by Table 9 of the Plan shall be treated as a co-channel. Until such time as incumbencies with known air-interfaces become known, Table 9 of the Plan, Adjacent-Channel Coupled Power Ratio Values are not directly applicable.

Appendix Q – Former Reserved Channel Allocations

Pursuant to the FCC Report and Order 14-172, dated October 24, 2014 and the 47 CFR Part 90.531(b)(2)(i), Region 28 will allocate all twenty-four (24) reserved channels to T-Band Replacement within 80 miles of the center of Philadelphia, PA, for a five year period starting from the date the FCC releases a Public Notice announcing the availability of the reserved channels licensing, after which the FCC may revisit extending the five year priority access period. The FCC delegated to the Chief of the Public Safety and Homeland Security Bureau the authority to issue such a Public Notice. In addition, where T-Band incumbents have obtained waivers to exceed the 128 km radius, Region 28 shall afford priority access to Reserve Channels in the geographic areas covered by the waiver outside the 128 km radius.

In the Report and Order, the Commission afforded:
T-Band incumbent's priority access to the Reserve Channels on the condition that relocating T-Band incumbents

(1) Commit to returning to the Commission an equal amount of T-Band spectrum
(2) Obtain RPC concurrence. For example, a relocating T-Band incumbent seeking four Reserve Channels must commit to return four or more T-Band channels.
(3) Be an eligible agency under the §90.523: 14-172, The FCC reiterated "that even though state and local governmental entities, including transit agencies, have access to 700 MHz narrowband spectrum as eligible licensees, uses of this spectrum must conform to the "sole or principal purpose" prong of Section 337(f)(1)(A) (i.e. the protection of safety of life, health, or property)"

Further Region 28 requires the following of the requesting agency:

(4) Exhausted all other channel allocations the Region 28 Plan of spectrum allocation Priority, except for Out-of-Pool allotments that do not conform to the CAPRAD allotments.
(5) Agencies applying for the same former Reserved Channels will be evaluated per Section 3.3 of the plan: Application Scoring Matrix
(6) A maximum of four (4) received channels will be allocated to each eligible agency on a first come first service basis

Pursuant to the FCC Report and Order 14-172, dated October 24, 2014 and 47 CFR Part 90.531(b)(2)(ii), Outside of the 80 miles zone, six (6) of the former reserved channels may allocated for deployable use as recommended by the National Public Safety Telecommunications Council (NPSTC) and the National Regional Planning Council (NRPC).

Former Reserved Channels – T-Band Replacement Channels.

FCC Channel	Base Frequency	Mobile Frequency	Status – within 80 miles of Philadelphia	Outside of 80 miles of Philadelphia
37-38	769.231250	799.231250	Resrvd T-Band Replcmnt	Deployable Use
61-62	769.381250	799.381250	Resrvd T-Band Replcmnt	Deployable Use
77-78	769.481250	799.481250	Resrvd T-Band Replcmnt	
117-118	769.731250	799.731250	Resrvd T-Band Replcmnt	Deployable Use
141-142	769.881250	799.881250	Resrvd T-Band Replcmnt	Deployable Use
157-158	769.981250	799.981250	Resrvd T-Band Replcmnt	
197-198	770.231250	800.231250	Resrvd T-Band Replcmnt	
221-222	770.381250	800.381250	Resrvd T-Band Replcmnt	
237-238	770.481250	800.481250	Resrvd T-Band Replcmnt	
277-278	770.731250	800.731250	Resrvd T-Band Replcmnt	
301-302	770.881250	800.881250	Resrvd T-Band Replcmnt	
317-318	770.981250	800.981250	Resrvd T-Band Replcmnt	
643-644	773.018750	803.018750	Resrvd T-Band Replcmnt	
683-684	773.268750	803.268750	Resrvd T-Band Replcmnt	
699-700	773.368750	803.368750	Resrvd T-Band Replcmnt	
723-724	773.518750	803.518750	Resrvd T-Band Replcmnt	
763-764	773.768750	803.768750	Resrvd T-Band Replcmnt	
779-780	773.868750	803.868750	Resrvd T-Band Replcmnt	
803-804	774.018750	804.018750	Resrvd T-Band Replcmnt	
843-844	774.268750	804.268750	Resrvd T-Band Replcmnt	
859-860	774.368750	804.368750	Resrvd T-Band Replcmnt	
883-884	774.518750	804.518750	Resrvd T-Band Replcmnt	Deployable Use
923-934	774.768750	804.768750	Resrvd T-Band Replcmnt	
939-940	774.868750	804.868750	Resrvd T-Band Replcmnt	Deployable Use