

Regional Plan for the Public Safety 700 MHz Band in Region 31 (North Carolina)



September 1, 2009

TABLE OF CONTENTS

Preamble

Section 1 – Regional Planning Leadership

Section 2 – General Information

2.1 RPC Membership

2.2 Regional Description

Section 3 – Notification Process and Operations of the Regional Planning Committee

3.1 Notification Process

3.2 Operations of the Regional Planning Committee

Section 4 – Regional Plan Administration

4.1 Procedure for Requesting Channels

4.2 Spectrum Re-Usage

4.3 Application Submission

4.4 Application Distribution/Coordination

4.5 Give up or Give Back Spectrum

4.6 Allocation Disputes

4.7 Procedure for Frequency Coordination

4.8 Method for Allocating Narrowband Voice Channels

4.9 Orphan Channels

4.10 Low Power Pool Channels

4.11 Priority Matrix

4.12 Intra-Regional Dispute Resolution

Section 5 – Interoperability

5.1 Standardized Nomenclature

5.2 Minimum Channel Quantity

Section 6 – Coordination With Adjacent Regions

Section 7 – System Design/Efficiency Requirements

7.1 Interference Protection

7.2 Spectrum Efficiency Standards

7.3 Loading

Section 8 – System Implementation

Section 9 – Future Planning

9.1 Database Maintenance

9.2 Inter-Regional Dispute Resolution

9.3 Amendment Process

9.4 Meeting Notification

Section 10 – Certification

Appendices

Appendix A – List of RPC Membership, Contact Information and Voting Status

Appendix B – RPC Bylaws

Appendix C – Meeting Minutes, Notifications, etc.

Appendix D – 700 MHz Pre-Assignment Rules Recommendations

Appendix E – Adjacent Region Concurrences

Appendix F – Inter-Regional Dispute Resolution Agreements

Appendix G – Table of Interoperability Frequencies

Appendix H – Pool Allotments by County

Appendix I – LPTV Notifications

Appendix J – Low Power Pool Channels

700 MHz Regional Plan Region 31

Preamble

In order to help alleviate major wireless radio congestion, the Federal Communication Commission (FCC) has released 60 MHz of television broadcast spectrum – channels 60-69 (745-805 MHz) for use by land mobile radios. In addition to alleviating the congestion for wireless radio systems, the FCC also hoped to provide public safety access to new technologies that may require additional use of bandwidth, and promote interoperability. To accomplish these goals, the FCC allocated this spectrum as follows: 24 MHz for public safety, 30 MHz for commercial use, and 6 MHz for guard bands.

Within the 24 MHz of spectrum for public safety, the following is a breakdown of how that bandwidth can be used:

- 2.6 MHz allocated for interoperability
- 7.7 MHz allocated for narrowband general use
- 2.4 MHz narrowband state license
- 2 MHz Guard Band
- 10 MHz Broadband

The Regional Planning Committee (RPC) is tasked with the administration and management of the narrowband general use spectrum. North Carolina has a State Interoperability Executive Committee tasked with the administration and management of the interoperability and state license spectrum.

Executive Summary

This is the 700 MHz Regional Plan for the State of North Carolina, Region 31, describing how the 700 MHz public safety narrowband spectrum will be allocated and administered by the Regional Planning Committee.

Region 31 convened in 2003, adopted bylaws, elected officers and formed subcommittees to develop its 700 MHz Regional Plan. Over a five year period, members of these subcommittees met to work on each element of the Plan. The subcommittees relied heavily on the documents and templates provided by the National Coordination Committee (NCC) in developing its Plan. Throughout the planning process, comment was sought and participation encouraged from all eligible entities within the Region. The Region developed a listserv and a website through which to disseminate information and post Plan documents for review by members.

A final draft Plan was prepared by the Communications Subcommittee in July of 2008, distributed through the list serve and posted on the Region's website for review by all members. The full committee met on September 8, 2008 to discuss and vote on the Plan.

During the September 8 meeting, modifications were made to the Plan based on input from members. These modifications were incorporated into the Final Draft and distributed to all members in attendance at the September 8 meeting. On September 1, 2009, the full committee met, reviewed the September 2008 Final Draft and voted to distribute the Final Draft via email to all RPC members asking that the members review and vote "yeah" or "nay" on adopting that Draft as the 700 MHz Regional Plan for North Carolina. Email votes were tallied and the Final Draft was adopted on October 14, 2009.

The draft was then distributed to the adjacent Regional Planning Committees for their review and concurrence.

Major Elements of the Plan:

Applications will be processed on a first-come, first-served basis. Application criteria and the process for filing applications is detailed in Section 4 of the Plan. North Carolina has a State Executive Interoperability Committee in which members of Region 31 participate. Region 31's recommendations on interoperability can be found in Section 5. The Region has provided a process for Intra- and Inter-Regional dispute resolution as detailed in Section 4.12 (Intra-Region); Section 9.2 and Appendix F (Inter-Regional). Region 31 was able to obtain approval of its Plan from all adjacent Regions.

General Information About the Regional Planning Committee

Section 1 – Regional Planning Committee Leadership

At the time of adoption and transmittal, the following individuals serve in leadership roles in the Region 31 Regional Planning Committee (RPC):

Chairperson	Michael Hodgson North Carolina State Highway Patrol 3318 Garner Road Raleigh, NC 27610 Phone: 919-662-4440 Email: mhodgson@ncshp.org
Vice-Chairperson	Major Gary McNeil Harnett County Sheriff's Office PO Box 399 Lillington, NC 27546
Secretary	Terry Yates Town of Cary 120 Wilkinson Cary, NC 27513 Phone: 919-469-4014 Email: Terry.Yates@townofcary.org

From time to time, as described in the RPC By-Laws, these three positions will be subject to re-election. At any such time that one of these four positions changes hands, the Chair will be responsible for taking the following actions:

- Providing notice to the FCC of the changes
- Providing notice to the NPSTC Support Office of the changes
- Modifying the Region 31 web site
(http://groups.yahoo.com/group/NC_700_RPC/) to reflect the changes

Such changes will not be considered Plan modifications, and will not require that this document be reissued to the FCC for public notice and comment cycles.

Section 2 – General Information

2.1 RPC Membership

Appendix C of this Plan lists all meeting dates and locations and Appendix A lists the Voting and Non-Voting membership in the Region 31 RPC.

Appendix A of this Plan lists all individuals who subscribed to the Region 31 email list server. Minutes of all meetings are posted on the Region 31 web site (http://groups.yahoo.com/group/NC_700_RPC/). The meeting attendance roster will be kept current for all future meetings after plan submittal and posted on the Region 31 website.

2.2 Description of the Region

North Carolina is a single planning region (Region 31) for both the 700 MHz and 800 MHz public safety bands. Region 31 is bordered by Virginia (Region 42) on the North, Tennessee (Region 39) on the West, the Atlantic Ocean to the East, and the States of Georgia (Region 10) and South Carolina (Region 37) to the South.

Region 31 consists of the state of North Carolina. The topography of the state ranges from the Great Smokies and the Blue Ridge Mountains in the west, the Piedmont in central North Carolina to the sand dunes and shores of the Atlantic Ocean in the east. North Carolina has the greatest variation on climate of all the southeastern states due to the range in elevation from 6,000 in the mountains to sea level in the coast. There are 1.2 million acres of national forest land, 200 waterfalls and over 1,500 10-acre or larger lakes in North Carolina.

The eastern end of North Carolina extends into the Atlantic Ocean and the Gulf Stream making it prone to Atlantic hurricanes which tend to occur every three to four years.

Federal installations in the Region include Ft. Bragg near Fayetteville, Pope Air Force Base in Fayetteville, Marine Corps Base Camp Lejeune, Marine Corps Air Station Cherry Point, Seymour Johnson Air Force Base in Goldsboro, and the United States Coast Guard.

The population of the state is approximately 8,049,313 (2000 census) people, which ranks it 11th in the nation. Major industries include motor vehicle and heavy equipment manufacturing, motor sports, biotechnology, pharmaceuticals, semiconductor and chip manufacturing, plastics, rubber, banking, tourism and agribusiness. North Carolina's film industry is the third largest in the country.

The major population areas are:

- Winston-Salem
- Charlotte
- Raleigh
- Durham
- Greensboro
- Fayetteville
- Asheville
- Monroe

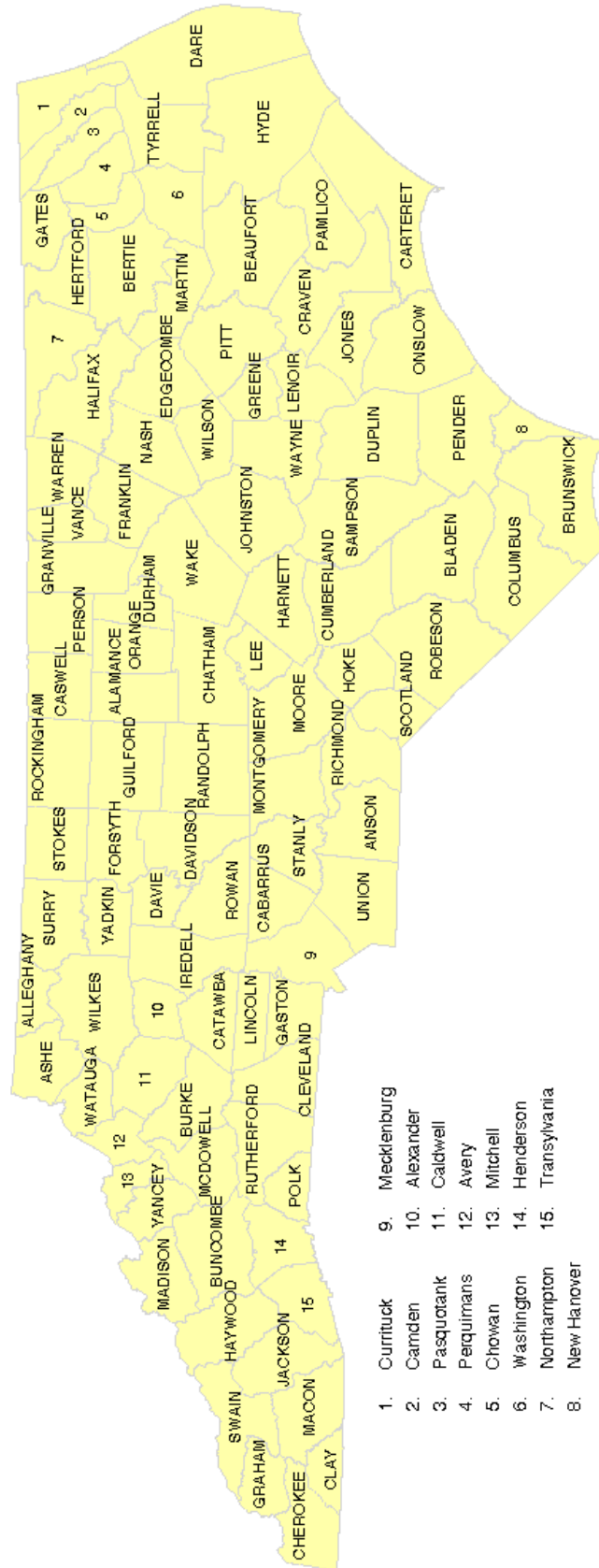
Wilmington
Greenville

There are 100 counties in the state with a total land mass of 48,711 square miles. The largest county is Mecklenburg, with a total of 949 square miles.

The state's population has been rapidly increasing due to its growing popularity as a retirement destination.

STATE OF NORTH CAROLINA

County Index Map



NORTH CAROLINA CENTER FOR
GEOGRAPHIC INFORMATION & ANALYSIS

August 1997

There are 100 counties in the state with populations indicated in the table below:

	July 1, 2004 estimate	Estimates base	2000 Census
North Carolina	8,541,221	8,046,491	8,049,313
Alamance County	138,462	130,794	130,800
Alexander County	34,842	33,603	33,603
Alleghany County	10,835	10,680	10,677
Anson County	25,109	25,275	25,275
Ashe County	25,224	24,384	24,384
Avery County	17,786	17,167	17,167
Beaufort County	45,794	44,958	44,958
Bertie County	19,539	19,757	19,773
Bladen County	33,007	32,278	32,278
Brunswick County	84,575	73,141	73,143
Buncombe County	215,680	206,289	206,330
Burke County	89,466	89,145	89,148
Cabarrus County	146,135	131,063	131,063
Caldwell County	78,960	77,386	77,415
Camden County	8,437	6,885	6,885
Carteret County	62,034	59,383	59,383
Caswell County	23,673	23,501	23,501
Catawba County	149,466	141,686	141,685
Chatham County	57,023	49,329	49,329
Cherokee County	25,289	24,298	24,298
Chowan County	14,504	14,150	14,526
Clay County	9,467	8,775	8,775
Cleveland County	98,258	96,290	96,287
Columbus County	54,703	54,749	54,749
Craven County	91,599	91,523	91,436
Cumberland County	308,489	302,963	302,963
Currituck County	22,067	18,190	18,190
Dare County	33,518	29,967	29,967
Davidson County	153,775	147,246	147,246
Davie County	38,006	34,835	34,835
Duplin County	51,778	49,063	49,063
Durham County	239,733	223,318	223,314
Edgecombe County	54,713	55,606	55,606
Forsyth County	320,919	306,067	306,067
Franklin County	53,520	47,260	47,260
Gaston County	194,459	190,304	190,365
Gates County	10,936	10,516	10,516
Graham County	8,075	7,993	7,993
Granville County	52,878	48,498	48,498
Greene County	20,219	18,974	18,974
Guilford County	438,795	421,048	421,048
Halifax County	56,034	57,370	57,370
Harnett County	101,542	91,025	91,025

Haywood County	56,256	54,033	54,033
Henderson County	95,361	89,214	89,173
Hertford County	23,551	22,977	22,601
Hoke County	39,262	33,646	33,646
Hyde County	5,521	5,826	5,826
Iredell County	136,924	122,660	122,660
Jackson County	34,975	33,121	33,121
Johnston County	141,640	121,900	121,965
Jones County	10,404	10,419	10,381
Lee County	49,162	49,208	49,040
Lenoir County	58,424	59,598	59,648
Lincoln County	67,952	63,780	63,780
McDowell County	43,285	42,151	42,151
Macon County	31,412	29,811	29,811
Madison County	19,951	19,635	19,635
Martin County	24,796	25,546	25,593
Mecklenburg County	771,617	695,370	695,454
Mitchell County	15,850	15,687	15,687
Montgomery County	27,501	26,822	26,822
Moore County	80,026	74,762	74,769
Nash County	90,710	87,385	87,420
New Hanover County	173,554	160,327	160,307
Northampton County	21,624	22,086	22,086
Onslow County	154,297	150,355	150,355
Orange County	117,515	115,533	118,227
Pamlico County	12,814	12,934	12,934
Pasquotank County	36,806	34,897	34,897
Pender County	45,117	41,082	41,082
Perquimans County	11,762	11,368	11,368
Person County	36,941	35,623	35,623
Pitt County	140,587	133,719	133,798
Polk County	19,021	18,324	18,324
Randolph County	136,230	130,471	130,454
Richmond County	46,648	46,564	46,564
Robeson County	126,469	123,245	123,339
Rockingham County	92,517	91,928	91,928
Rowan County	134,317	130,340	130,340
Rutherford County	63,570	62,901	62,899
Sampson County	62,379	60,161	60,161
Scotland County	36,230	35,998	35,998
Stanly County	58,927	58,100	58,100
Stokes County	45,390	44,711	44,711
Surry County	72,293	71,216	71,219
Swain County	13,146	12,968	12,968
Transylvania County	29,525	29,334	29,334
Tyrrell County	4,130	4,149	4,149
Union County	153,652	123,772	123,677
Vance County	43,774	42,954	42,954

Wake County	719,520	627,866	627,846
Warren County	19,890	19,972	19,972
Washington County	13,335	13,723	13,723
Watauga County	42,457	42,693	42,695
Wayne County	114,245	113,329	113,329
Wilkes County	67,095	65,632	65,632
Wilson County	76,091	73,811	73,814
Yadkin County	37,292	36,348	36,348
Yancey County	18,158	17,774	17,774

Section 3 – Notification Process/Operation of the Region

3.1 Notification Process

Michael Hodgson, North Carolina State Highway Patrol, was appointed the Region 31 Convener. The first regional planning committee meeting was held on November 18, 2003 at the Highway Patrol's Troop C Headquarters in Raleigh. This meeting was properly Noticed by the FCC under DA-03-2931A1 published on September 23, 2003. Interested parties were given 60 days advance notice of this meeting. Prior to the meeting, notices were sent to the FCC, to APCO and posted on the North Carolina State Users Network (NCSUN) website. Email lists established for the Region 31 NPSPAC planning process were used to advise interested persons of the 700 MHz meetings. All known interested parties such as the state APCO Chapter, NCSUN, and NCNENA were also notified. All Federally recognized Native American Tribes were notified of the first meeting as well as all subsequent meetings.

A web site was established for the region (http://groups.yahoo.com/group/NC_700_RPC/) and all meeting agendas and minutes were posted on that web site, as well as key resource documents and links to other web sites and web documents. All of this was done in an effort to raise awareness of the availability of the 700 MHz band and the existence of a regional planning process.

Finally, the web site provides a tool on the home page that would allow any interested party to sign up for a list server function.

Further efforts to increase awareness and visibility for the planning process included:

- Posting information and a web link on the list serve web site of the North Carolina Trunked User Group (<http://finance.groups.yahoo.com/group/NCSUN/>)
- Posting a web link on the NCSUN web site (<http://ncsun.twowayradiodirectory.com/>).

A copy of the FCC Public Notices, copies of advertisements published in the APCO magazine, copies of the notices posted on the state website and distributed through the state email are provided in Appendix C.

3.2 Operations of the Regional Planning Committee

Region 31 uses Roberts Rules of Order to conduct meetings. All decisions are made by clear consensus with each Public Safety Agency having one vote. Additional voting considerations are included in Region 31's Bylaws which are attached in Appendix B. The meetings are open to all interested persons and public input time is provided for anyone to express a viewpoint or to have input to the Regional Planning process.

The Region established four subcommittees to perform specific functions. Subcommittee Chairs are appointed by the RPC Chair. Membership in the Subcommittees is open to any interested member.

Interoperability Subcommittee: Dennis Baucom (City of Charlotte) Chair
The Interoperability Subcommittee is responsible for representing Region 31 on the State Interoperability Executive Committee (SIEC)

Planning Subcommittee: Bech Martin (City of Greensboro) Chair
The Planning Subcommittee is responsible for developing the process by which agencies within Region 31 will request 700 MHz frequencies. Once Region 31's 700 MHz Plan has been approved, a Technical Committee will be formed to review any applications filed within the Region.

Education & Awareness Subcommittee: Rik Rasmussen (City of Durham) Chair
The Education and Awareness Subcommittee is responsible for managing the list serve and distribution of information to RPC members.

Communications Subcommittee: Rik Rasmussen (City of Durham) Chair
The Communications Subcommittee is responsible for incorporating the input of the other three subcommittees into the 700 MHz Regional Plan for Region 31.

Technical Subcommittee: Chairperson to be selected after Plan approval
When Region 31 receives notice that its 700 MHz Plan has been approved, the RPC Chair will appoint a person to head the Subcommittee. That Chairperson will solicit members to form a Technical Subcommittee. The Subcommittee's responsibilities will be to review all applications received within the Region to ensure that they are complete and comply with this Plan. The Subcommittee will complete its review provide a recommendation to the Chairperson within 10 working days of application receipt. The Technical Subcommittee can request additional information, justification or clarification from the applicant.

A minimum of one full committee meeting will be held every twelve months. Notice of the annual meeting will be provided as outlined in Region 31's Bylaws.

The Region 31 700 MHz list-serve http://groups.yahoo.com/group/NC_700_RPC/ was created in February of 2006 to exchange information and disseminate meeting times, dates and agendas. The list serve was also used to distribute draft documents to the Committee members for comment and input.

Two years after the Federal Communications Commission approval of this Regional Plan, the Chairperson will call a meeting of the RPC to elect a Chair, Vice Chair and Secretary to serve a multi-year term. There is no limit to the number of terms that may be served by Officers of the 700 MHz Regional Planning Committee.

If the Chair is unable to serve a complete term, the Vice Chair will serve as Chair until the next 700 MHz Regional meeting. If both the Chair and Vice Chair are unable to serve their full terms, one or the other should make an effort to call a special meeting of the Committee to elect replacements. If for some reason, neither the Chair nor the Vice Chair can call the special meeting; the State or any County within the Region may call for a special meeting, giving at least 5 days notice, to elect replacements.

A chronological list of meetings, summary of minutes, meeting announcements and agendas outlining Region 31 progress in 700 MHz development is located in Appendix C of this document.

Section 4 – Regional Plan Administration

4.1 Procedure for Requesting Channels

Upon FCC approval of this Plan, Region 31 will announce to the Region that 700 MHz public safety channels are available in the Region and that channels have been assigned in pool allotments to counties within the Region for usage by Public Safety entities. The general usage spectrum may be used by all Local government entities and by State agencies with a showing of need. The State of North Carolina shall be eligible to apply for and be licensed for frequencies under this Plan with the submission of a showing proving that 1) there are not sufficient state controlled frequencies (state license, applicable interoperability allocations) for use or reuse to build out the State of North Carolina 700 MHz system within a particular county, or 2) that the State of North Carolina is constructing a 700 MHz system that will be available to local subscribers and that use of the state system without infrastructure cost or user fees has been offered to local subscribers belonging to eligible entities with daily operations within that county. All available methods will be used to notify public safety entities of channel availability in the Region. All spectrum requests will be considered on a first come, first served basis. Region 31 supports the National Coordination Committee Pre-Assignment Rules and Recommendations listed in Appendix D, and will use these guidelines as a template to determine if an application submitted to the Regional Planning Committee meets Regional Planning standards. It is recommended that applicants familiarize themselves with these recommendations prior to submitting applications.

In general and unless otherwise noted, the Region 31 Regional Planning Committee will adhere to the published National Coordination Committee Implementation Guidelines for 700 MHz Public Safety Regional Planning Committees.

4.2 Spectrum Re-Usage

Region 31 utilized the CAPRAD pre-coordination database system to maximize channel re-usage in the 700 MHz band. Since the spectrum is reused, it is hoped that each system will use the minimum power necessary to meet their needs. If power and ERP seems excessive to the committee, a reduction in power or antenna gain may be requested to minimize interference and increase spectrum efficiency to other co-channel and adjacent channel users.

4.3 Application Submission

To request channels from Region 31, a full application package must be submitted to the CAPRAD database at <http://caprad.nlectc.du.edu/login/home>. The application must include:

- The current FCC Form (currently the 601)
- A short description of the proposed system
- A justification for the additional spectrum
- A coverage prediction map using the current version of TIA/EIA TSB 88 guidelines
- Maps showing all interference predicted in the proposed system
- Documents indicating agency-funding commitments sufficient to fund the development of the proposed system(s)
- A list of ‘giveback’ channels, if applicable.

If an applicant has demonstrated a need for 700 MHz channels and cannot access the CAPRAD database, the Committee will accept hard copy applications.

4.4 Application Distribution / Coordination

The Chair will distribute the application request to the Technical Committee for review. The Technical Committee must provide a recommendation to the Region 31 Chair within 10 working days of application receipt. If recommended by the Technical Committee and absent a protest, the Regional Planning Committee Chair will approve the application and (if applicable), submit it, through the CAPRAD database, to the applicant’s preferred FCC-certified frequency coordinator for processing.

The CAPRAD database will reflect the approved application and place the channels for the proposed system in “pre-license” status.

4.5 Give Up or Give Back Spectrum

When applying for new 700 MHz channels, the Regional Planning Committee encourages applicants to relinquish some amount of currently licensed spectrum (“give back channels”) and make that spectrum again available for use within the Region. Agencies with existing licensed 800 MHz systems that are requesting 700 MHz channels for system expansion will not fall under this requirement. An agency may retain channels

that are used for paging, telemetry, microwave or other functions that the 700 MHz spectrum does not meet the agency's need.

When an applicant submits a request for 700 MHz spectrum, a "Give Back Plan" should accompany the application. This Plan should show what frequencies would be vacated, a time line for the transition and what channels are being retained. If an existing channel is being retained for interoperability purposes, please identify that channel in the "Give Back Plan".

Frequency "give back" requirements shall hold true for regional systems where system constituents maintain discrete licenses for their own internal operations. In this case, constituent political subdivisions or agencies are required to participate in the "give back" plan. Should a political subdivision or agency act as host of a regional system, both the host agency and the constituent agencies should participate in the "give back" Plan.

Frequencies used for non-voice critical infrastructure support functions [Supervisory Control and Data Acquisition (SCADA) systems] as well as frequencies that are used for interoperability with other regional, state or national agencies that rely on one certain frequency band for emergency operations, as well as other mutual aid or interoperable channels may be exempted by the Committee as candidates for "give back". Frequencies used by an applicant for such purposes, as well as the specific use and a network/ system diagram, must be specified in supportive documentation supplied with the application to enable the Regional Planning Committee to consider any possible exemption.

In cases of hardship or failure to implement, the Regional Planning Committee will consider, on a case-by-case basis, extensions not to exceed five years from date of license issuance, of the "give back" timetable. The dispute arbitration process in Section 4.12 of this document shall apply should there be protest.

4.6 Allocation Disputes:

An agency may protest a proposed system within 30 calendar days of the original distribution. Protests will only be considered if the allocation does not conform to Plan criteria or objecting agency or the Chairperson can show harmful interference is likely based on the information submitted by the agency requesting the new allocation. If an agency with pre-licensed/Region approved co-channel or adjacent channel allocations objects to a proposed allocation 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 and the results will be required for Regional application approval. Coverage area service/interference contours of the proposed system(s) should meet values designated in Section 7.1 of this document. Any costs associated with field tests or any other requirements to obtain Region 31 Plan approval are the responsibility of the agency submitting application to Region 31.

The parties involved must resolve the allocation dispute and notify the Region Chair within 30 calendar days. If the parties involved cannot resolve the allocation dispute

within that timeframe, then a special full Committee meeting will be scheduled to consider and vote on the protest. The burden of proof will be on the protesting party.

The protesting party may be liable for any costs associated with the protest if the complaint is unfounded. If approved, the application will be submitted through the CAPRAD database to the applicant's chosen FCC-certified frequency coordinator for processing.

4.7 Procedure for Frequency Coordination

Once an application for 700 MHz frequencies has been reviewed and approved by the Regional Planning Committee, it will be submitted through the CAPRAD database, to the applicant's preferred FCC-certified frequency coordinator for processing. This process meets the requirements of FCC Rule 90.176 (c).

4.8 Method for Allocating Narrowband Voice Channels

The narrowband general use spectrum refers to the block of frequencies designated of local public safety users. The FCC has allocated six hundred and sixteen 6.25 kHz bandwidth channel pairs for narrowband general use.

The Region 31 Technical & Implementation Subcommittee recommends that allocations be made on the basis of one 25 KHz channel for every two (2) voice channel requests and one 25 KHz channel for each narrowband data channel request. Bandwidths less than 25 kHz are permitted (see Section 4.9) This recommendation is approved by the full Committee and is part of this Plan. It is the eventual goal of the FCC and the public safety community for radio equipment to meet the efficiency requirement of one voice channel per 6.25 KHz of spectrum. When applying for channels within Region 31, the applicants should acknowledge the deadline for converting all equipment to 6.25 kHz or 6.25 kHz equivalent technology is 12/31/2016.

All agencies requesting spectrum during the initial filing window (see Section 4.1) will be allocated channels if Plan requirements are met. Agencies using Frequency Division Multiplexing (FDMA) will be expected to maintain 12.5 KHz equivalency when developing systems and will be required to utilize BOTH 12.5 KHz portions of the 25 KHz block. In most cases, this will require the geographic separation of each 12.5 KHz adjacent channel. In order to promote spectrum efficiency, Region 31 will encourage that systems allocated 25 KHz channel blocks will utilize the entire channel and not "orphan" any portions of a system designated channel. (See next Section)

4.9 Orphan Channels

The narrowband channels within Region 31 have been allotted in 25 kHz building blocks, each comprised of four 6.25 kHz or two 12.5 kHz channels. If agencies choose a technology that requires less than 25 kHz channel bandwidth for their system, there is the

potential for residual, “orphaned channels” of 6.25 kHz or 12.5 kHz bandwidth immediately adjacent to the assigned channel within a given county area.

An orphan channel may (if possible) be used at another location within the county area where it was originally approved, if it meets co- and adjacent channel interference criteria. Region 31 will utilize “county areas” as guidelines for channel implementation with the area of Region 31. The definition of “county area” in this Plan is the geographical/political boundaries of a given county, plus a distance of up to 5 miles outside of the county or jurisdictional boundary.

If the channel, or a portion of a channel, is being moved into a “county area” that is within 30 miles of an adjacent Region, Region 31 will receive concurrence from the affected Region. By extending the “county area” by a designated distance, it is anticipated this will increase the possibility that orphaned channel remainders will still be able to be utilized within the “county area”, and reduce the potential for channel remainders to be forced to lay dormant and used with a county channel allotment. These movements will be documented on the National Law Enforcement & Corrections Technology Center CAPRAD database.

If the “orphaned channel” remainder does not meet co-channel and adjacent channel interference criteria by moving it within the “county 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 in the “county area” listed above, Region 31 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 31 Regional Planning Committee shall have the authority to move orphan channel allotments, and/or co-/adjacent-channel allotments affected by the movement of orphan channels, within its “county 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.

4.10 Low Power Pool Channels

The FCC in the 700 MHz band plan set aside channels 1 - 8 paired with 961 – 968 and 949 – 958 paired with 1909 – 1918 for low power use for on-scene incident response purposes using mobiles and portables subject to Commission-approved Regional Planning Committee Regional Plans. Transmitter power must not exceed 2 watts (ERP).

Channels 9 –12 paired with 969 – 972 and 959 – 960 paired with 1919 – 1920 are licensed nationwide for itinerant operation. Transmitter power must not exceed 2 watts (ERP). These channels may operate using analog operation. To facilitate analog

modulation, this Plan will allow aggregation of two 6.25 KHz channels for 12.5 kHz bandwidth or four 6.25 kHz channels for 25 kHz bandwidth.

On scene temporary base and mobile relay stations are allowed (to the extent FCC rules allow) antenna height limit of 6.1 meter (20 feet) AGL (Above Ground Level). Vehicular repeater operation (MO3) is also allowed on either side of the repeater pair. However, users are encouraged to operate in simplex mode with the least practical amount of power to reliably maintain communications whenever possible. This Plan does not limit use to analog only operations and channels are intended for use in a wide variety of applications that may require digital modulation types as well. The use of EIA/ TIA-102, Project 25 Common Air Interface is required when using a digital mode of operation.

In its dialog leading up to CFR §90.531 allocating the twenty-four low power 6.25 kHz frequency pairs (of which eighteen fall under RPC jurisdiction), the Federal Communications Commission (FCC) suggested that there is a potential for multiple low power applications, and absent a compelling showing, a sharing approach be employed rather than making exclusive assignments for each specific application as low power operations can co-exist [in relatively close proximity] on the same frequencies with minimal potential for interference due to the 2 watt power restriction.

Region 31 has designated the entire low power allocation (1-8/961-968; 949-958/1909-1918) will be used for multi-disciplinary, joint public safety operations. The low power pool is allotted as follows:

Simplex 12.5 kHz operations

Channels 1-2	769.00625
Channels 3-4	769.01875
Channels 5-6	769.03125
Channels 7-8	769.04375
Channels 961-962	799.00625
Channels 963-964	799.01875
Channels 965-966	799.03125
Channels 967-968	799.04375

Simplex 25 kHz operations

Channels 949-952	774.9375 (DVRS Tx freq. ; subscribers Rx freq.)
Channels 1909-1912	804.9375 (DVRS Rx freq. ; subscribers Tx freq.)

Simplex operations may occur on either the base or mobile channels. Users are cautioned to coordinate on scene use among all agencies involved, particularly when the use of repeater modes is possible at or in proximity to a common incident. When the Plan is approved, the State of North Carolina will file a license to operate on these frequencies statewide. Once the State's license is granted, individual agencies within North Carolina wishing to operate on these frequencies would not need to file for an authorization but would be able to operate on these frequencies under a sharing agreement with the State.

Those users who do not wish to operate under the state license should license multiple channels and be prepared to operate on alternate channels at any given operational area.

A table of the low power channels can be found in Appendix J.

4.11 Priority Matrix

In the event that spectrum allocation requests conflict and cannot all be accommodated, Region 31 will use the following criteria to evaluate competing applications. This matrix will only be used if two requests are received in the same time frame for the same number of channels. Otherwise, the first come first served procedure will be used.

- **Service (Maximum score 250 points)**

Priority is given to users fundamentally involved with the protection of Life and Property Police, fire, EMS, Rescue, EMA, combined systems, multi-jurisdictional systems, etc.

- **Inter-system & Intra-system interoperability (Maximum score 100 points)**

How well the proposed system will be able to communicate with other levels of government and services during an emergency on “regular” channels, not the I/O channels. Interoperability must exist among many agencies to successfully accomplish the highest level of service delivery to the public during a major incident, accident, natural disaster or terrorist attack. Applicants requesting 700 MHz spectrum shall inform the Region of how and with whom they have been achieving interoperability in their present system. (Applicants shall attach a list of possible interoperability agencies) The applicant shall stipulate how they will accomplish interoperability in their proposed system (gateway, switch, cross-band repeater, and console cross patch, software defined radio or other means) for each of the priorities listed below:

1. Disaster and extreme emergency operation for mutual aid and interagency communications.
2. Emergency or urgent operation involving imminent danger to life or property.
3. Special event control, generally of a preplanned nature (including task force operations).
4. Single agency secondary communications.
5. Routine day-to-day non-emergency operations.

- **Loading (Maximum score 100 points)**

Is the system part of a cooperative, multi-organization system? Is the application an expansion of an existing 800 MHz system? Have all 821 channels been assigned (where technically feasible)? A showing of maximum efficiency or a demonstration of the system’s mobile usage pattern could be required in addition to loading information. Based on population, number of units (if number of units, are they take home, how many per officer), what are the talk groups?

- **Spectrum Efficient Technology (Maximum score 200 points)**

How spectrally efficient is the system's technology? Trunked systems are considered efficient "as well as any technological systems feature, which is designed to enhance the efficiency of the system and provide for the efficient use of the spectrum."

- Systems Implementation Factors (Maximum score 200 points)

Applicants should submit some form of proof of financial commitment, accompanied by a RFP (Request for Proposal) outlining the design of the proposed system and detailing the development of the requested channels will be required to be submitted to the Regional Planning Committee prior to approval

- Geographic Efficient (Maximum Score 50 points)

The ratio of subscriber units to area covered and the channel reuse potential are two subcategories. The higher the ratio (mobiles divided by square miles of coverage) the more efficient the use of the frequencies. Those systems which cover large geographic areas will have a greater potential for channel reuse and will therefore receive a high score in this subcategory.

- Givebacks (Maximum score 100 points)

Consider the number of channels given back

Consider the extent of availability and usability of those channels to others.

4.12 Intra-Regional Dispute Resolution

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 agency must notify the Chair of the dispute in writing. This section does not apply to disputes over new spectrum allocations (see Section 4.6). The Chair will attempt to resolve the dispute on an informal basis. If a party to the dispute employs the Chair, then the Vice Chair will attempt resolution. In such cases, the Chair shall be deemed to have a conflict of interest and will be precluded from voting on such matters. If after 30 days, the dispute is not resolved, the Chair (or Vice Chair) will appoint a Dispute Resolution Committee consisting of two members from the State of North Carolina governmental agencies and at least five members from different counties in Region 31. That Committee will select a Chair to head the committee and a secretary to document the proceedings.

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 affected 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 Regional Planning Committee. As a last resort, the dispute will be forwarded to the Federal Communications Commission for final resolution.

5. Interoperability

Several members of the Region 31 Regional Planning Committee are also members of the North Carolina State Interoperability Executive Committee, currently developing an interoperability plan for the state. The State will hold any required licenses to operate on the interoperability frequencies. Region 31 makes the following recommendations/requirements for 700 MHz equipment deployed within North Carolina.

5.1 Standardized Nomenclature:

The NPSTC standardized nomenclature is recommended nationwide. All 700 MHz public safety subscriber equipment using an alphanumeric display of at least eight digits should be programmed to show the recommended label from the Table in Appendix G when programmed to operate on the associated 700 MHz channel set. The Table shows the recommended label for equipment operating in the mobile relay (repeater) mode. When operating in direct (simplex) mode, the letter "D" should be appended to the end of the label.

5.2 Minimum Channel Quantity

All subscriber units deployed within the State of North Carolina must include the frequencies identified by the State Interoperability Executive Committee as the minimum required for interoperability.

6. Coordination with Adjacent Regions

Region 31 is adjacent to the following 700 MHz Regions:

Region 10	Georgia
Region 37	South Carolina
Region 39	Tennessee
Region 42	Virginia

Each of the listed Regions has reviewed and approved Region 31's 700 MHz Regional Plan. The signed concurrences from every adjacent Region can be found in Appendix E.

7. System Design/Efficiency Requirements

7.1 Interference Protection

The frequency allotment list will be based on an assumption that systems will be engineered on an interference-limited basis, not a noise floor-limited basis. Agencies 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. Coverage area is normally the geographical boundaries of the Agency(s) served plus five miles area beyond.

Systems should be designed for minimum signal strength of 40 dBμ in the system coverage area while minimizing signal power out of the coverage area. TIA/EIA TSB88-A (or latest version) will be used to determine harmful interference assuming 40 dBμ, or greater, signal in all systems coverage areas. This may require patterned antennas and extra sites compared to a design that assumes noise limited coverage. Region 31 complies with National Coordination Committee recommendations listed in Appendix K of the Regional Planning Committee Guidelines published by the National Coordination Committee (NCC).

7.2 Spectrum Efficiency Standards

Initial allotments will be made on the basis of 25 kHz channels. To maximize spectrum utilization, prudent engineering practices and receivers of the highest quality must 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 service area having minimum signal strength below 40 dBμ), or the systems utilize low quality receivers. The applicant's implementation of best engineering practices will be encouraged by the Regional Planning Committee at all times.

It is the eventual goal of the FCC and the public safety community for radio equipment to meet the requirement of one voice channel per 6.25 KHz of spectrum. When applying for channels within Region 31, the applicants should acknowledge the deadline for converting all equipment to 6.25 kHz or 6.25 kHz equivalent technology is 12/31/2016. As 6.25 KHz migration evolves, an agency that creates any "orphaned" 6.25 KHz channels should realize that these channels could be allocated to nearby agencies requesting channels to maintain consistent grouping and utilization of 25 KHz blocks within the Region. (See Section 4.9)

For narrowband mobile data requests, Region 31 recommends that allotments be made on the basis of one 25 kHz channel per narrowband mobile data request.

Region 31 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.

7.3 Loading: Voice Channels

Public safety entities applying under this Plan must show a loading figure of 50 mobiles per 6.25 kHz frequency requested. Non-Governmental Entities (NGOs) applying under this Plan must show a loading figure of 75 mobiles per 6.25 kHz frequency requested.

Agencies requesting additional frequencies must show loading of 70 percent or greater on their existing system. Should a demand for frequencies exist after assignable frequencies become exhausted, any system having frequencies assigned under this Plan four or more

years previously and not loaded to at least 70 percent will lose operating authority on the appropriate number of frequencies to bring the system into compliance with the 70 percent loading standard. Frequencies lost in this manner will be reallocated to other agencies to help satisfy the demand for additional frequencies.

..

7.3.1 Traffic Loading Study for Narrowband Systems

Justification for adding frequencies, or retaining existing frequencies, may be provided by a traffic loading study instead of loading by number of transmitters per channel. It will be the responsibility of the requesting agency to provide a verifiable study showing sufficient airtime usage to merit additional frequencies. A showing of airtime usage, excluding telephone interconnect air time, during the peak busy hour greater than 70 percent per channel on three consecutive days will be required to satisfy loading criteria.

8. System Implementation

There are no incumbent high power broadcast TV stations in North Carolina; however there are several low power or translator TV stations across the state. These low power stations are secondary to primary public safety operations; therefore all agencies within the state can immediately implement any 700 MHz spectrum for which they receive FCC authorizations.

Region 31 has informed the low power TV and TV translator licensees in the Region that the 700 MHz Regional Planning process has begun. The notification reiterates these stations' secondary status. A copy of the notice sent to the low power stations can be found in Appendix I.

9. Future Planning

9.1 Database Maintenance

Region 31 will continue to use and maintain the CAPRAD database as a tool to perform spectrum allocations to Region 31 members and will update the database as allocations are made and FCC authorizations are granted. The Committee has the authority to change the original frequency allotment if necessary. To keep the most effective frequency allotments within Region 31, an annual review of the allotments will be made at the yearly full committee meeting. Recommended changes to the Plan will be voted on. If at any time a system is allocated channels within Region 31 and the system cannot be developed within the agreed upon guidelines (90.629, 90.631 or 90.633), the channels will be returned to the county pool allotments they originated from and again be available to other agencies in the Region. If Plan modifications are approved, the Chairperson will, if necessary, obtain adjacent Region approval and file a Plan amendment with the Federal Communications Commission indicating the approved changes.

9.2 Inter-Regional Dispute Resolution

Signed Inter-Regional Dispute Resolution Agreements from all adjacent Regions are attached as Appendix F.

9.3 Amendment Process

Amendments to the Region 31 Plan will be made at Region 31 RPC meetings. All amendments will be voted on and passed or rejected by a simple majority vote. The Chairman or his designee will make the appropriate changes to the Plan and notify the adjacent Regions for their concurrence. Once the concurrences are received from the adjacent Regions, the Plan will be filed, by the Chairperson, with the FCC for approval. Electronic filing will be the preferred method.

9.4 Meeting Announcements

Meeting announcements will be made per the Region 31 Bylaws. Region 31 will utilize its membership list, Public Notices issued by the FCC, fax notification, email to individual, associations, agencies and vendors, verbal announcements at meetings and/or appropriate publications.

10. Certification

I hereby certify that all planning committee meetings, including subcommittee or executive committee meetings were open to the public.

A handwritten signature in black ink, appearing to read "M. Hodgson", is written over a light gray diamond-shaped background.

Michael Hodgson
Chairman, Region 31
September 9, 2009

APPENDIX A**RPC Membership**

Name/Title	Agency	Address	Phone	Voting Status
Joe Cherry	Cleveland County	PO Box 1210, Shelby, NC 28151	704-484-4948	Voting
Dennis Baucom Network Technology Director	City of Charlotte	527 Spratt St., Charlotte, NC 28206	704-336-5349	Voting
Rik Rasmussen Radio Systems Manager	City/County of Durham	Communications Maintenance Division 1840 Camden Ave. Durham, NC 27704	919-560-4175 ext. 244	Voting
Bechinger Martin	City of Greensboro	1201 Colliseum Blvd. Greensboro, NC 27403	336-412-6363	Voting
Terry Yates	Town of Cary	316 N Academy St., Cary, NC 27511	919-469-4014	Voting
Martin Chriscoe	Wake County	PO Box 550, Raleigh, NC 27603	919-856-6484	Voting
Gary McNeill	Harnett County	PO Box 399, Lillington, NC 27546	910-893-7103	Voting
Holt Watts	Motorola	174 South Macon Dr., Littleton, NC 27850	919-303-5785	Non-Voting
Max Hopper	Motorola	Box 40, Earl, NC 28038	704-471-0822	Non-Voting
Wis Brown	Motorola	129 Kelly Cove Court, Mooresville, NC 28117	704-361-1644	Non-Voting
Bette Rinehart	Motorola	28 Twin Lakes Dr., Gettysburg, PA	717-334-0654	Non-Voting
Bob Speidel	M/A-Com	221 Jefferson Ridge Pkwy, Lynchburg, VA 24501	434-455-6600	Non-Voting
Rick Smith	M/A-Com	221 Jefferson Ridge Pkwy, Lynchburg, VA 24501	434-455-6600	Non-Voting
Larry Simmons	Motorola	PO Box 9276 Greensboro, NC	919-303-5785	Non-Voting
Dyke Hostettler	NCSHP	41 Hagwood Rd., Zebulon, NC	919-269-4912	Voting

		27597		
Andrew Curd	Motorola	2723 Arbor View Dr.,	919-462-8606	Non-Voting
Robert J Llorca Senior Staff System Engineer	Motorola	8757 Red Oak Blvd. Ste. 220 Charlotte, NC 28218-3977	704-372-4776	Non-Voting
Rick Thomas Communications Supervisor	Cary Police Dept.	120 Wilkinson Ave., Cary, NC 27513	919-460-4920	Voting
Chris Linker Communications Director	City of Concord	PO Box 308, Concord, NC 28026-0308	704-920-5590	Voting
Gary J Thomas ENP Communications Director/E911	County of Union	500 N Main St. Ste. 13, Monroe, NC 28112	704-283-3550	Voting
Charles Ashton WSFC Interagency Communications Coordinator	Winston-Salem/Forsyth County (WSFC) Interagency Communications	3 rd Floor, 201 N Chestnut St., Winston-Salem, NC 27101-4120	336-703-2192	Voting
David Martin Director	Iredell County	PO Box 788, Statesville, NC 28687	704-878-3047	Voting
Frank Hall Radio System Manager	Wake County Information Services Dept.	337 S Salisbury St., PO Box 550, Raleigh, NC 27601	919-856-5215	Voting
Harry (Pete) Wright WS/FC Interagency Communications Manager	Winston-Salem/Forsyth County (WSFC) Interagency Communications	3rd Floor, 201 N. Chestnut St., Winston-Salem, NC 27101-4120	336-703-2191	Voting
Terry Buff	City of Salisbury	132 N Main St., Salisbury, NC 28144	704-638-5399	Voting
Lewis Chatham	City of Greensboro	1201A Coliseum Blvd., Greensboro, NC 27403	336-373-2316	Voting
Stacey Wilson	City of Greensboro	1201A Coliseum Blvd., Greensboro, NC 27403	336-373-2316	Voting
Lee Stanley	City of High Point	PO Box 230, High Point, NC 27261	336-883-3404	Voting
Steve Lingerfelt	City of High Point	211 S. Hamilton St., High Point, NC 27261	336-883-3286	Voting
Wesley Reid	Guilford Metro 911	1201 Coliseum Blvd., Greensboro, NC 27403	336-373-2122	Voting
Kenyon Harris	Burlington Police	267 W Front St., Burlington, NC 27215	336-229-2500	Voting
Bob Soderlund	Person County	329 S. Morgan St	336-597-7810	Voting

		Roxboro, NC 27573		
David Dodd	Cleveland County	100 Justice Place Shelby, NC 28150	704-484-7822	Voting
Ron Limuti	Wireless Communications Inc.	400 Regan Ave Charlotte, NC 28206	704-636-0311	Non-Voting
Amanda Barringer	Wireless Communications Inc.	315 Kitty Hawk Dr. Morrisville, NC 27560	919-786-0891	Non-Voting

APPENDIX B

RPC BYLAWS

Article I Name & Purpose

- 1.1 Name and purpose. The name of this Region shall be Region 31. 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 the 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.

Voting Members. Voting members shall consist of one representative from any single agency engaged in public safety eligible to hold a license under 47 CFR 90.20, 47 CFR 90.523 or 47 CFR 2.103. Except that 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 himself/herself and the agency and eligibility category which he or she represents. Voting members may not vote on issues involving their entity.

Non-voting members. Non-voting members are all other 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.

- 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 representative 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, treasurer or secretary of the Regional Committee or to a meeting of the members.

2.6 Annual Meetings. The annual meeting of the members shall be held in the fall of each year.

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 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 special meetings of the members 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 five days or by e-mail/facsimile at least three days before the meeting, addressed to such member at his or her usual or last known business address, or, to give notice to such member in person or by telephone at least three days before the meeting. (State notification requirements may differ.)

2.9 Quorum. At any meeting of the members, a majority of the officers and ___ members of the voting members shall constitute a quorum. Any meeting may be adjourned to such date or dates not more than ninety days after the first session of the meeting by a majority of the votes cast upon the question, whether or not a quorum is present, and the meeting may be held as adjourned without further notice.

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 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 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 but the proxy shall terminate after the final adjournment of such meeting.
- 2.13 Voting on One's Own Application. At no time can a voting member vote on his/her application.
- 2.14 Special Interest Voting. A voting member can **not** have a commercial interest in any of his/her region and/or adjacent region's application(s) on which he/she is reviewing, approving and/or voting.

ARTICLE III OFFICERS AND AGENTS

3.1 Number and qualification. The officers of the Regional Committee shall be a chairman, vice-chairman, treasurer, secretary 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, if any, 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. The secretary 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 is absent from any meeting of members, a temporary secretary 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 Resignation. An officer may resign by delivering his or her written resignation to the chairman, vice-chairman, treasurer, or secretary 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.

3.8 Vacancies. If the office of any officer becomes vacant, the voting members may elect a successor. Each such successor shall hold office for the remainder of the term, and in the case of the chairman, vice chairman, treasurer and secretary until his or her successor is elected and qualified, or in each case until he or she sooner dies, resigns, is removed or becomes disqualified.

ARTICLE IV AMENDMENTS

These bylaws may be altered, amended or repealed in whole or in part by vote. 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

This Regional Committee may be resolved 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

The Conduct of Regional Meetings including without limitation, debate and voting, 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 C

MEETING NOTIFICATIONS

Page 1 of 1

Bullock, Pamela A.

From: Bullock, Pamela A.
Sent: Friday, February 13, 2004 11:43 AM
To: 'andrew.curd@mot.com'; 'cferguson@ci.burlington.nc.us'; 'dbaucom@ci.charlotte.nc.us';
'drierso@co.guilford.nc.us'; 'dykeh@juno.com'; 'gmcneill@harnett.org'; 'gene.gilleland@mot.com';
'holt.watts@mot.com'; 'joe.cherry@clevelandcounty.com'; 'facellaj@tycoelectronics.com';
'larry.simmons@motorola.com'; 'mchriscoe@co.wake.nc.us'; 'Maxhopper@aol.com';
'smithr@tycoelectronics.com'; 'terry.yates@townofcary.org'; 'tom.murphy@ci.greensboro.nc.us';
'Martin, Bech'
Cc: Hodgson, Michael; Bullock, Pamela A.
Subject: 700 MHz Planning Committee Meeting

The second meeting of the North Carolina 700 MHz Regional Planning Committee has been rescheduled for Thursday, March 18th at 10:00am.

This meeting will be held at the same location as our previous meeting, which is the Auditorium of the North Carolina State Highway Patrol's Troop C Headquarters, located at the intersection of Blue Ridge Road and District Drive in Raleigh, NC.

Mr. Bob Speidel of MA/Com and Ms. Bette Rinehart of Motorola have both graciously agreed to make their presentations on the 700 MHz public safety spectrum. A formal agenda will be forthcoming.

Pamela A. Bullock for Mike Hodgson
North Carolina Highway Patrol
Information Management Unit
919-662-4440 (ph)
919-662-4444 (fx)

2/13/2004

**AGENDA FOR THE INTITAL 700 MHz REGIONAL PLANNING COMMITTEE
MEETING TO BE HELD ON NOVEMBER 18, 2003**

1. Introduction of Convener – Michael T. Hodgson, North Carolina State Highway Patrol
2. Recognition of Mr. Harold Meacombs, Chairman, 800 MHz Region 31.

Convener has asked Mrs. Pamela Bullock, NC Highway Patrol to act as the temporary secretary until the elections are complete.

3. Purpose of the meeting today is to elect a regional chairperson and other region officers, to establish the standing committees for the region and name members and committee chairs and for the adoption of a set of Bylaws for the Region 31 Committee. Furthermore a discussion of the upcoming tasks facing each committee will be brought to those present.

4. Election of Chair

- A. Nominations for Chair (and Vice Chair)
- B. Elections
- C. Appointment of Secretary, Treasurer and Standing Committee Chairs
- D. Standing Committees
 - Interoperability Committee – Develop Criteria to ensure interoperability

Planning Committee – Develop and write the regional plan.

Education and awareness Committee – Determine eligible's needs and present to region.

- E. Adoption of Bylaws (Draft copies are available at the door)
- F. Discussion of the development of Draft Plan
- G. Establish Future Meetings and Locations
- H. Adjourn

**AGENDA FOR THE SECOND 700 MHz REGIONAL PLANNING
COMMITTEE MEETING TO BE HELD ON MARCH 18, 2004**

1. Greetings from the Chairman
2. Recognition of guests.
3. 700 MHz presentation by Ms. Bette Rinehart from Motorola, Inc.
4. Break (10 minutes)
5. 700 MHz presentation by Mr. Bob Speidel from MA/Com, Inc.
6. Discussion of any old business.
 - A) Need to fill Chair of the Education and Awareness Committee.
7. Discussion of any new business.
 - A) Chair is entertaining a host for the next meeting in June, 2004.
8. Adjourn



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 03-2931
September 23, 2003

WIRELESS TELECOMMUNICATIONS BUREAU ACTION

REGION 31 (NORTH CAROLINA) 700 MHz REGIONAL PLANNING COMMITTEE ANNOUNCES FIRST MEETING

The Region 31 (North Carolina) 700 MHz Public Safety Regional Planning Committee announces that its initial meeting will be held on Tuesday, November 18, 2003, at North Carolina State Highway Patrol, Troop "C" Headquarters Auditorium, 1831 Blue Ridge Road, Raleigh, North Carolina.

The meeting of the Region 31 (North Carolina) 700 MHz National Public Safety Planning Advisory Committee will convene at 10:00 a.m. The agenda for this meeting includes:

- Elect a Chairperson for the 700 MHz Committee,
- Creation of and appointments to the Region 31 Regional Planning Committee,
- Discuss Rules and Regulations governing the Chairperson and committee members,
- Discussion of both 700 MHz and 4.9 GHz issues to be addressed by the region,
- Set the next meeting date and time.

The Region 31 (North Carolina) 700 MHz Public Safety Planning Committee meeting is 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 in Region 31 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 your agency's needs.

All interested parties wishing to participate in the planning for the use of either the new public safety spectrum in the 700 MHz band or the newly allocated 4.9 GHz band are

encouraged to attend. For further information about the meeting, please contact:

Michael T. Hodgson, Convener

(over)

Region 31, 700 MHz Regional Planning Committee
c/o North Carolina State Highway Patrol
3318 Garner Road
Raleigh, North Carolina 27610
PH: 919-662-4440 (Voice)
FX: 919-662-4444
Email: mhodgson@ncshp.org

- FCC -

SUMMARY OF MEETING MINUTES

Minutes 700 MHz Committee Meeting November 18, 2003

I. Opening remarks and summary of meeting agenda given by Mike Hodgson.

II. Election of Officers:

Election of Chairman

- Mike Hodgson opened floor to nominations for Chairman.
- Tom Murphy (Greensboro) nominated Mike Hodgson as Chairman and the nomination was seconded by Gary McNeill (Harnett County).
- The group unanimously voted to elect Mike Hodgson (by a show of hands as consensus instead of using ballots) as Chairman.
- Motion to close the nomination was given by Donald Rierson (Guilford County).
- Nomination closed.

Election of Vice Chairman

- Mike Hodgson opened floor to nominations for Vice Chairman.
- Holt Watts (Motorola) nominated Gary McNeill (Harnett County) as Vice Chairman and the nomination was seconded by Dyke Hostettler (SHP advisor).
- The group unanimously voted to elect Gary McNeil (by a show of hands as consensus rather than ballots) as Vice Chairman.
- Motion to close the nomination was given by Martin Chriscoe (Wake County).
- Nomination closed.

Election of Secretary

- Mike Hodgson opened floor to nominations for Secretary
- Dyke Hostettler (SHP Advisor) nominated Pam Bullock (SHP) as Secretary and the nomination was seconded by Tom Murphy (Greensboro).
- The group unanimously voted to elect Pam Bullock (by a show of hands as consensus rather than ballots) as secretary.
- Motion was made to close the nomination.
- Nomination closed.

Election of Treasurer

- Mike Hodgson opened floor to nominations for Treasurer.
- Tom Murphy (Greensboro) made the suggestion that the office of Treasurer and Secretary be held by the same person.
- Mike Hodgson, as Chairman, saw no reason why office of Treasurer and Secretary could not be held by the same person and it was determined that if it is in fact not acceptable, we will have new nominations for Treasurer at the next meeting.
- Motion made by Tom Murphy (Greensboro) to elect Pam Bullock as Treasurer and the nomination was seconded by Martin Chriscoe (Wake County).

- The group unanimously voted to elect Pam Bullock (by a show of hands as consensus rather than ballots) as Treasurer.
- Motion was made to close the nomination.
- Nomination closed.

III. Standing committees

Mike Hodgson asked for volunteers to act as chairperson for each of the following committees:

- Interoperability Committee—Dennis Baucom (City of Charlotte) volunteered to Chair Interoperability Committee.
- Planning Committee—Bech Martin (City of Greensboro) volunteered to Chair Planning Committee.
- Education and Awareness Committee—No volunteers to Chair Education and Awareness Committee and position remains unfilled at this time. Will accept nominations or volunteers at next meeting.
- The group unanimously voted to appoint Bech Martin and Dennis Baucom as Co-Chairs of the Standing Committees (Interoperability Committee and Planning Committee).

IV. Bylaws

- The Chairman reviewed the bylaws as they are now and asked for any suggested changes from the group.
- After no objections to bylaws as they are, Chairman asked for motion to accept bylaws.
- Motion to accept bylaws was made by Tom Murphy (Greensboro) and seconded by Terry Yates (Town of Cary).
- The group unanimously voted to adopt existing bylaws for committee.

V. Future meetings/locations

- The next meeting is scheduled for January 22, 2004, at 10:00AM at the Highway Patrol's Troop C Headquarters in Raleigh.
- Future meetings will be held in diverse locations of the committee members.

VI. Meeting adjourned

- Chairman, Mike Hodgson, asked for motion to adjourn meeting.
- Motion made by Dennis Baucom (City of Charlotte) and seconded by Gary McNeill (Harnett County).
- Meeting adjourned at 11:00AM.

**Minutes
700 MHz Committee Meeting
March 18, 2004**

I. Opening remarks and summary of meeting agenda given by Mike Hodgson.

II. Recognition of guest presenters:

- 700 MHz presentations were given by Ms. Bette Rinehart of Motorola, Inc. and Mr. Bob Speidel of MA/Com, Inc. Copies of both presentations are included in the Minutes.

III. Discussion of old business:

- Rik Rasmussen volunteered to act as Chair of the Education and Awareness Committee.

IV. Discussion of new business:

- Bech Martin volunteered to "host" the next 700 MHz meeting in Greensboro.
- It was suggested that the 700 MHz and SUN meetings be combined. While Mike Hodgson is unable to attend the April SUN meeting, he will reconsider combining the two for future meetings.
- Shelby will host the June SUN meeting if we are interested in combining the meetings at that time. Mike will consider and advise.
- Each committee should be able to give a brief report on the status of their current activities at the next meeting.

V. Next meeting

- The next meeting of the 700 MHz committee will be held in Greensboro on (DATE) OR WILL IT BE HELD IN SHELBY ALONG W/THE NEXT SUN MTG???

VI. Meeting adjourned

Summary of Minutes of March 30, 2005 Meeting

I. Meeting convened at 3 p.m.

II. Presentations

- a. Presentation by Bette Rinehart, National Regulatory Affairs Manager, Motorola on recent developments at 700 MHz
- b. Report from Chairman Hodgson on subcommittee meeting held in Greensboro

III. Old Business

- a. Subcommittee Chair Denis Baucom reported on CAPRAD and North Carolina frequency pack

IV. Next Meeting

- a. Next full meeting will be held in September, 2006 at the Sea Trail Resort during the NCSUN Meeting.

V. Adjournment

- a. Meeting was adjourned at 4 pm

Summary of Minutes of September 12, 2006 Meeting

I. Opening Remarks and Call to Order by Chairman Michael Hodgson

II. Introduction of Guest Presenter

- a. Bette Rinehart, Regulatory Affairs Manager, Motorola

III. 700 MHz Regulatory Update Presentation

- a. Ms. Rinehart explained the FCC's recent Notice of Proposed rulemaking seeking comment on how to accommodate broadband in the 700 MHz public safety allocation; Regional planning basics and a DTV clearing update.
- b. The Committee discussed whether to file comments.

IV. Discussion of Required Plan Amendments

- a. The Committee closely reviewed the section on the low power pool allotments/uses and made changes based on members' input.

V. Next Meeting

- a. The next meeting will be held in conjunction with the annual NC APCO/NENA joint meeting unless otherwise noted..

VI. Meeting Adjourned

Summary of Minutes of September 11, 2007 Meeting

I. Opening Remarks and Call to Order by Chairman Michael Hodgson

II. Introduction of Guest Presenter

- a. Bette Rinehart, Regulatory Affairs Manager, Motorola

III. 700 MHz Regulatory Update Presentation

- a. Ms. Rinehart explained the FCC's recent decision to consolidate the 700 MHz narrowband spectrum into the upper portion of the band as well as eliminating the option to deploy wideband systems except under waiver.
- b. The NCSHP has programmed certain of the 700 MHz state license channels into radios and asked that Ms. Rinehart check those frequencies to see if they need to be changed to comply with the new 700 MHz band plan and what FCC filings the NCSHP will have to prepare and file.
- c. Chairman Hodgson discussed the 700 MHz rebanding requirement and the required changes that are called for in the repack of the 700 MHz spectrum. The state intends to request a waiver of the requirements pending the rebanding of 800 MHz to avoid having to retune all of the radios that have the 700 MHz simplex channels from the state license in them.

IV. Discussion of Required Plan Amendments

- a. The Committee discussed what changes need to be made to the 700 MHz Regional Plan to comply with the new FCC rules. The CAPRAD database must also be updated to reflect the new 700 MHz band plan. The Writing Committee will make the required changes and distribute the final draft Plan when the CAPRAD re-sort is available.

V. Next Meeting

- a. The next meeting will be held in March, 2008 in Salisbury, NC.

VI. Meeting Adjourned

Summary of March 27, 2008 RPC Meeting

I. Meeting convened at 1 p.m.

II. Presentations

- a. Presentation by Bette Rinehart, National Regulatory Affairs Manager, Motorola on recent developments at 700 MHz

III. Old Business

- a. Members discussed the elements of the Plan for which the Region is awaiting input from other entities, e.g. CAPRAD database

IV. Next Meeting

- a. Next full meeting will be held in September, 2008. The final Draft Plan will be presented at this meeting for vote by the membership to adopt.

V. Adjournment

- a. Meeting was adjourned at 2 pm

Summary of September 8, 2008 RPC Meeting

I. Meeting convened at 1 p.m.

II. Plan Review and discussion.

- a. The final draft Plan had been posted on the NCSUN and state websites for review by the members prior to the meeting. There was discussion on the application review process within the Region. The RPC decided that once the Plan was approved by the FCC, a Technical Committee would be formed whose responsibility would be to review any applications received and, within 10 working days, provide a recommended action to the RPC chair. The Plan to be amended to include this new language and distributed to the members via email.

III. The meeting was adjourned at 2:30 p.m.

APPENDIX D

Simplified 700 MHz Pre-assignment Rules

Introduction

This paper describes a process for coordinating the initial block assignments of 700 MHz channels before details of actual system deployments is available. In this initial phase, there is little actual knowledge of the specific equipment to be deployed and the exact antenna sites locations. As a result, a simple, high-level method is proposed to establish guidelines for frequency coordination. When actual systems are deployed, additional details will be known and the system designers will be required to select specific sites and supporting hardware to control interference.

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.

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

For adjacent and alternate channels, the 60 dB μ interfering contour will be allowed to touch but not overlap the 40 dB μ service contour of the system being evaluated. All contours are (50,50).

Discussion

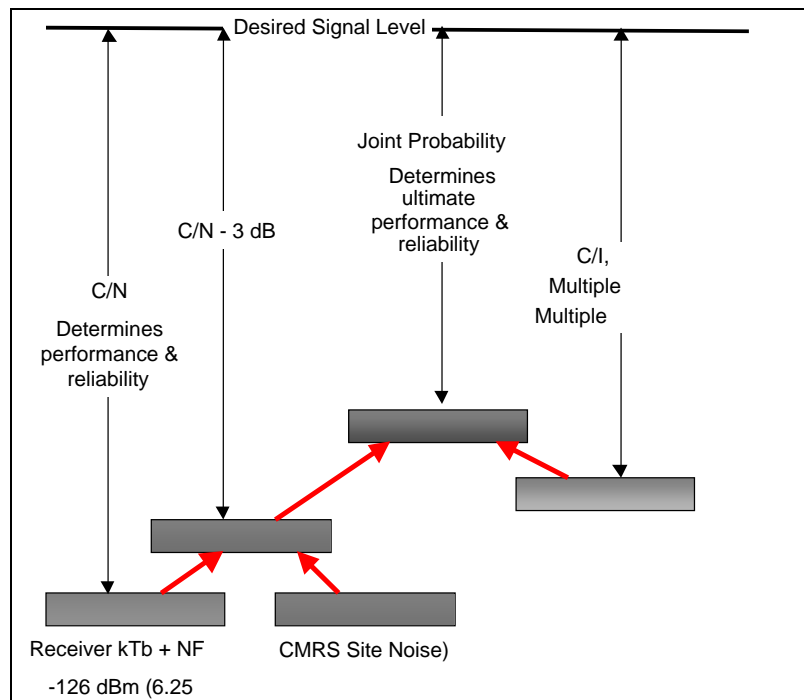
Based upon the ERP/HAAT limitations referenced in 47CFR ¶ 90.541(a), the maximum field strength will be limited to 40 dB relative to 1 μ V/m (customarily denoted as 40 dB μ). It is assumed that this limitation will be applied similar to the way it is applied in the 821-824/866-869 MHz band. That is, a 40 dB μ field strength can be deployed up to a defined distance 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. This is important that public safety systems have adequate margins for reliability within their service area in the presence of interference, including the potential for interference from CMRS infrastructure in adjacent bands.

The value of 40 dBμ in the 700 MHz band corresponds to a signal of -92.7 dBm, received by a half-wavelength dipole ($\lambda/2$) antenna. The thermal noise floor for a 6.25 kHz bandwidth receiver would be in the range of -126 dBm, so there is a margin of approximately 33 dB available for “noise limited” reliability. Figure 1 shows show the various interfering sources and how they accumulate to form a composite noise floor that can be used to determine the “reliability” or probability of achieving the desired performance in the presence of various interfering sources with differing characteristics.

If CMRS out-of-band emissions (OOBE) noise is allowed to be equal to the original thermal noise floor, there is a 3 dB reduction¹ in the available margin. This lowers the reliability and/or the channel performance of Public Safety systems. The left side of Figure 1 shows that the original 33 dB margin is reduced by 3 dB to only 30 dB available to determine “noise + CMRS OOBE limited” performance and reliability.

There are also different technologies with various channel bandwidths and different performance criteria. C/N in the range of 17 – 20 dB is required to achieve channel performance.



¹ TIA TR8 made this 3 dB allowance for CMRS OOBE noise during the meetings in Mesa, AZ, January 2001.

Figure 1 - Interfering Sources Create A “Noise” Level Influencing Reliability

In addition, unknown adjacent and alternate channel assignments need to be accounted for. The co-channel and adjacent/alternate sources are shown in the right hand side of Figure 1. At the edge of the service area, there would normally be only a single co-channel source, but there could potentially be several adjacent or alternate channel sources involved. It is recommended that co-channel assignments limit interference to <1% at the edge of the service area (worst case mile). A C/I ratio of 26.4 dB plus the required capture value (~10 dB) is required to achieve this goal.²

The ultimate performance and reliability has to take into consideration both the noise sources (thermal & CMRS OOB) and all the interference sources. The center of Figure 1 shows that the joint probability that the both performance criteria and interference criteria are met must be determined.

Table 1 shows estimated performance considering the 3 dB rise in the noise floor at the 40 dBμ signal level. Performance varies due to the different Cf/N requirements and noise floors of the different modulations and channel bandwidths.

Note that since little is known about the affects of terrain, an initial lognormal standard deviation of 8 dB is used.

Comparison of Joint Reliability for various				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver ENBW (kHz)	6	6	9	18
Noise Figure(10 dB)	10	10	10	10
Receiver Noise Floor (dBm)	-126.22	-126.22	-124.46	-121.45
Rise in Noise Floor (dB)	3.00	3.00	3.00	3.00
New Receiver Noise Floor (dB)	-123.22	-123.22	-121.46	-118.45
40 dBu = -92.7 dBm	-92.7	-92.7	-92.7	-92.7
Receiver Capture (dB)	10.0	10.0	10.0	10.0
Noise Margin (dB)	30.52	30.52	28.76	25.75
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
C/N Margin (dB)	13.52	13.52	10.76	5.75
Standard deviation (8 dB)	8.0	8.0	8.0	8.0
Z	1.690	1.690	1.345	0.718
Noise Reliability (%)	95.45%	95.45%	91.06%	76.37%
C/I for <1% prob of capture	36.4	36.4	36.4	36.4
I (dBu)	3.7	3.7	3.7	3.7
I (dBm)	-129.0	-129.0	-129.0	-129.0
Joint Probability (C & I)	94.7%	94.7%	90.4%	76.1%
40 dBu = -92.7 dBm @ 770 MHz				

Table 1 Joint Probability For Project 25, 700 MHz Equipment Configurations.

² See Appendix A for an explanation of how the 1% interference value is defined and derived.

These values are appropriate for a mobile on the street, but are considerably short to provide reliable communications to portables inside buildings.

Portable In-Building Coverage

Most Public Safety communications systems, today, are designed for portable in-building³ coverage and the requirement for >95 % reliable coverage. To analyze the impact of requiring portable in building coverage and designing to a 40 dBμ service contour, several scenarios are presented. The different scenarios involve a given separation from the desired sites. Whether simulcast or multi-cast is used in wide-area systems, the antenna sites must be placed near the service area boundary and directional antennas, directed into the service area, must be used. The impact of simulcast is included to show that the 40 dBμ service contour must be able to fall outside the edge of the service area in order to meet coverage requirements at the edge of the service area. From the analysis, recommendations are made on how far the 40 dBμ service contour should extend beyond the service area.

Table 2 estimates urban coverage where simulcast is required to achieve the desired portable in building coverage. Several assumptions are required to use this estimate.

- Distance from the location to each site. Equal distance is assumed.
- CMRS noise is reduced when entering buildings. This is not a guarantee as the type of deployments is unknown. It is possible that CMRS units may have transmitters inside buildings. This could be potentially a large contributor unless the CMRS OOB is suppressed to TIA's most recent recommendation and the "site isolation" is maintained at 65 dB minimum.
- The 40 dBμ service contour is allowed to extend beyond the edge of the service area boundary.
- Other configurations may be deployed utilizing additional sites, lower tower heights, lower ERP and shorter site separations.

Estimated Performance at 2.5 miles from each site				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver Noise Floor (dBm)	-126.20	-126.20	-124.50	-118.50
Signal at 2.5 miles (dBm)	-72.7	-72.7	-72.7	-72.7
Margin (dB)	53.50	53.50	51.80	45.80
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
Building Loss (dB)	20	20	20	20
Antenna Loss (dBd)	8	8	8	8
Reliability Margin	8.50	8.50	5.80	-2.20

³ Building penetration losses typically required for urban = 20 dB, suburban = 15 dB, rural = 10 dB.

Z	1.0625	1.0625	0.725	-0.275
Single Site Noise Reliability (%)	85.60%	85.60%	76.58%	39.17%
Simulcast with 2 sites	97.93%	97.93%	94.51%	62.99%
Simulcast with 3 sites	99.70%	99.70%	98.71%	77.49%
Simulcast with 4 sites	99.96%	99.96%	99.70%	86.30%

Table 2, Estimated Performance From Site(s) 2.5 Miles From Typical Urban Buildings.

Table 2 shows for the example case of 2.5 miles a single site cannot provide >95% reliability. Either more sites must be used to reduce the distance or other system design techniques must be used to improve the reliability. For example, the table shows that simulcast can be used to achieve public safety levels of reliability at this distance. Table 2 also shows that the difference in performance margin requirements for wider bandwidth channels requires more sites and closer site-to-site separation.

Figures 2 and 3 show how the configurations would potentially be deployed for a typical site with 240 Watts ERP. This is based on:

- 75 Watt transmitter, 18.75 dBW
 - 200 foot tower
 - 10 dBd 180 degree sector antenna +10.0 dBd
 - 5 dB of cable/filter loss. - 5.0 dB
- 23.75 dBW \approx 240 Watts (ERPd)

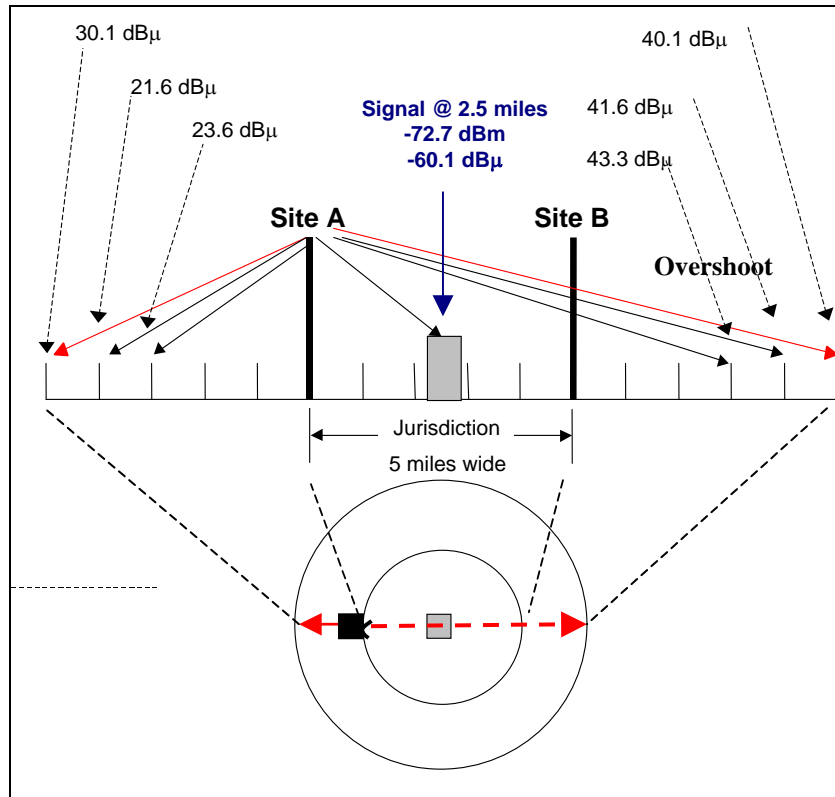


Figure 2 - Field Strength From Left Most Site.

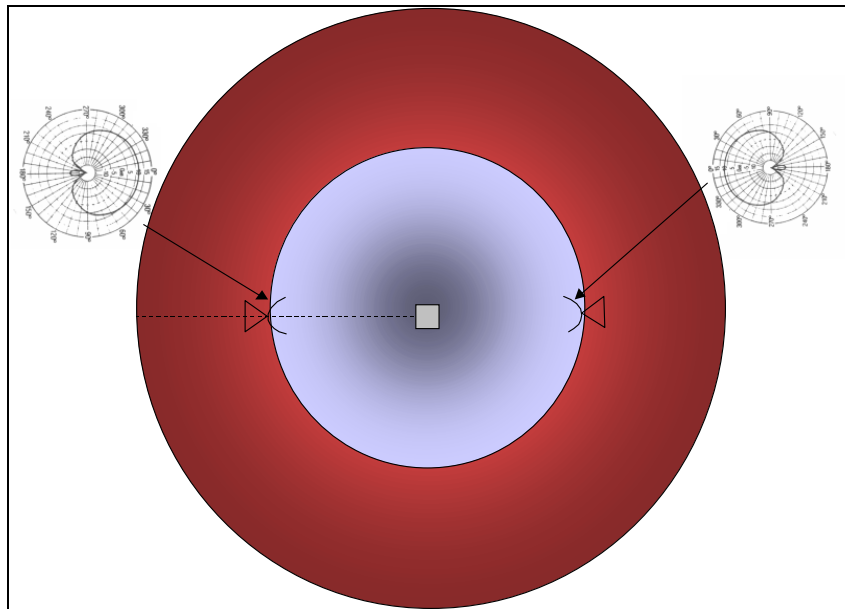


Figure 3 - Antenna Configuration Required To Limit Field Strength Off "Backside"

Figure 2 is for an urbanized area with a jurisdiction defined as a 5 mile circle. To provide the necessary coverage to portables in buildings at the center of the jurisdiction requires that the sites be placed along the edge of the service area and utilize directional antennas oriented toward the center of the service area (Figure 3). In this case, at 5 miles beyond the edge of the service area, the sites would produce a composite field strength of approximately 40 dB μ . Since one site is over 10 dB dominant, the contribution from the other site is not considered. The control of the field strength behind the site relies on a 20 dB antenna with a Front to Back Ratio (F/B) specification as shown in Figure 3. This performance may be optimistic due to back scatter off local obstructions in urbanized areas. However, use of antennas on the sides of buildings can assist in achieving better F/B ratios and the initial planning is not precise enough to prohibit using the full 20 dB.

The use of a single site at the center of the service area is not normally practical. To provide the necessary signal strength at the edge of the service area would produce a field strength 5 miles beyond in excess of 44 dB μ . However, if the high loss buildings were concentrated at the service area's center, then potentially a single site could be deployed, assuming that the building loss sufficiently decreases near the edge of the service area allowing a reduction in ERP to achieve the desired reliability.

Downtilting of antennas, instead of directional antennas, to control the 40 dB μ is not practical, in this scenario. For a 200 foot tall tower, the center of radiation from a 3 dB down-tilt antenna hits the ground at ~ 0.75 miles⁴. The difference in angular discrimination from a 200 foot tall tower at service area boundary at 5 miles and service contour at 10 miles is approximately 0.6 degrees, so ERP is basically the same as ERP toward the horizon. It would not be possible to achieve necessary signal strength at service area boundary and have 40 dB μ service contour be less than 5 miles away.

Tables 3 and 4 represent the same configuration, but for less dense buildings. In these cases, the distance to extend the 40 dB μ service contour can be determined from Table 5.

Estimated Performance at 3.5 miles from each site				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver Noise Floor (dBm)	-126.20	-126.20	-124.50	-118.50
Signal at 3.5 miles (dBm)	-77.7	-77.7	-77.7	-77.7
Margin (dB)	48.50	48.50	46.80	40.80
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
Building Loss (dB)	15	15	15	15
Antenna Loss (dBd)	8	8	8	8
Reliability Margin	8.50	8.50	5.80	-2.20
Z	1.0625	1.0625	0.725	-0.275
Single Site Noise Reliability (%)	85.60%	85.60%	76.58%	39.17%
Simulcast with 2 sites	97.93%	97.93%	94.51%	62.99%
Simulcast with 3 sites	99.70%	99.70%	98.71%	77.49%
Simulcast with 4 sites	99.96%	99.96%	99.70%	86.30%

⁴ Use of high gain antennas with down-tilt on low-level sites is one of the causes of far-near interference experienced in the 800 MHz band.

Table 3 - Lower Loss Buildings, 3.5 Mile From Site(s)

Estimated Performance at 5.0 miles from each site				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver Noise Floor (dBm)	-126.20	-126.20	-124.50	-118.50
Signal at 5.0 miles (dBm)	-82.7	-82.7	-82.7	-82.7
Margin (dB)	43.50	43.50	41.80	35.80
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
Building Loss (dB)	10	10	10	10
Antenna Loss (dBd)	8	8	8	8
Reliability Margin	8.50	8.50	5.80	-2.20
Z	1.0625	1.0625	0.725	-0.275
Single Site Noise Reliability (%)	85.60%	85.60%	76.58%	39.17%
Simulcast with 2 sites	97.93%	97.93%	94.51%	62.99%
Simulcast with 3 sites	99.70%	99.70%	98.71%	77.49%
Simulcast with 4 sites	99.96%	99.96%	99.70%	86.30%

Table 4 - Low Loss Buildings, 5.0 Miles From Site(s)

Note that the receive signals were adjusted to offset the lowered building penetration loss. This produces the same numerical reliability results, but allows increasing the site to building separation and this in turn lowers the magnitude of the “overshoot” across the service area.

Table 5 shows the field strength for a direct path and for a path reduced by a 20 dB F/B antenna. This allows the analysis to be simplified for the specific example being discussed.

	Site A Direct Path	Site B Back Side of 20 dB F/B Antenna
Overshoot Distance (mi)	Field Strength (dBμ)	Field Strength (dBμ)
1	73.3	53.3
2	63.3	43.3
2.5	60.1	40.1
3	57.5	37.5
4	53.3	33.5
5	50.1	30.1
...	...	
10	40.1	
11	38.4	
12	37.5	
13	36.0	
14	34.5	
15	33.0	

Table 5 - Field Strength Vs. Distance From Site

For the scenarios above, the composite level at the Service Contour is the sum of the signals from the two sites. The sum can not exceed 40 dBμ. Table 5 allows you to calculate the distance to Service Contour given the distance from one of the sites.

Scenario 1: Refer to Figure 3a. Site B is just inside the Service Area boundary and Service Contour must be <5 Miles outside Service Area boundary. Signal level at Service Contour from Site B is 30.1 dBμ. Signal level for Site A can be up to 40 dBμ, since when summing two signals with >10 dB delta, the lower signal level has little effect (less than 0.4 dB in this case). Therefore, Site A can be 10 miles from the Service Contour, or 5 miles inside the Service Area boundary. The coverage performance for this scenario is shown in Table 2, above, for 20 dB building loss typical of urban areas.

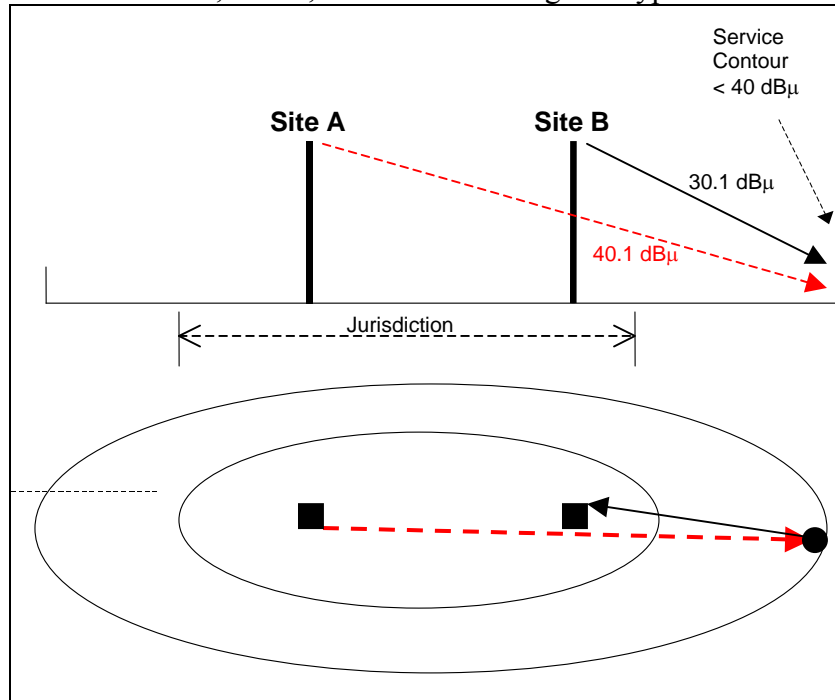


Figure 3a. Scenario 1 on of Use of Table 5

Scenario 2: Refer to bold data in Table 5. Site B is just inside the Service Area boundary and Service Contour must be <4 Miles outside Service Area boundary. Signal level at Service Contour from Site B is 33.5 dBμ. Signal level for Site A can be up to 38.4 dBμ. (See Appendix B for simple method to sum the powers of signals expressed in decibels.) The composite power level is 39.7 dBμ. Therefore, Site A can be slightly less than 11 miles from the Service Contour, or ~7 miles inside the Service Area boundary. The coverage performance for this example is shown in Table 3, above, for 15 dB building loss typical of suburban areas.

Scenario 3: Site B is just inside the Service Area boundary and Service Contour must be <3 Miles outside Service Area boundary. Signal level at Service Contour from Site B is

37.5 dBμ. Signal level for Site A can be up to 36.4 dBμ. (See Appendix B simple method to sum signals expressed in decibels.) The composite power level is 40.0 dBμ. Therefore, Site A can be ~13 miles from the Service Contour, or ~10 miles inside the Service Area boundary. The coverage performance for this example is shown in Table 4, above, for 10 dB building loss typical of rural areas.

Service Contour Extension Recommendation

The resulting recommendation for extending the 40 dB μ service contour beyond the service area boundary is:

Type of Area	Extension (mi.)
Urban (20 dB Buildings)	5
Suburban (15 dB Buildings)	4
Rural (10 dB Buildings)	3

Table 6 - Recommended Extension Distance Of 40 dB μ Field Strength

Using this recommendation the 40 dB μ service contour can then be constructed based on the defined service area without having to perform an actual prediction.

Interfering Contour

Table 1 above shows that 36.4 dB of margin is required to provide 10 dB of co-channel capture and <1% probability of interference. Since the 40 dB μ service contour is beyond the edge of the service area, some relaxation in the level of interference is reasonable. Therefore, a 35 dB co-channel C/I ratio is recommended and is consistent with what is currently being licensed in the 821-824/866-869 MHz Public Safety band.

Co-Channel Interfering Contour Recommendation

- Allow the constructed 40 dB μ (50,50) service contour to extend beyond the edge of the defined service area by the distance indicated in Table 6.
- Allow the 5 dB μ (50,50) interfering contour to intercept but not overlap the 40 dB μ service contour.

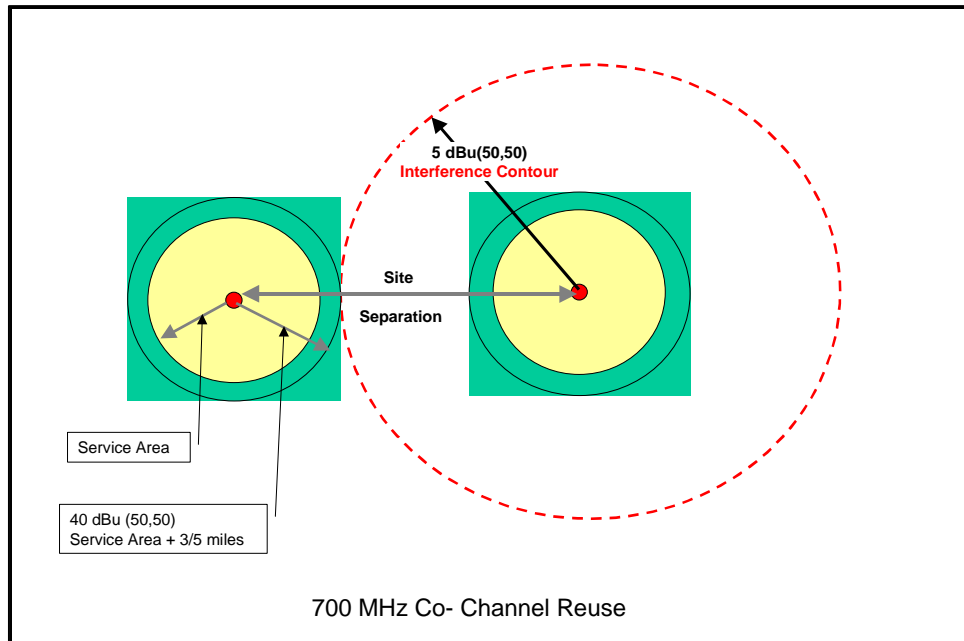


Figure 4 - Co-Channel Reuse Criterion

Adjacent and Alternate Channel Considerations

Adjacent and alternate channels are treated as being noise sources that alter the composite noise floor of a victim receiver. Using the 47 CFR § 90.543 values of ACCP can facilitate the coordination of adjacent and alternate channels. The C/I requirements for <1% interference can be reduced by the value of ACCPR. For example to achieve an X dB C/I for the adjacent channel that is -40 dBc a C/I of [X-40] dB is required. Where the alternate channel ACP value is -60 dBc, then the C/I = [X-60] dB is the goal for assignment(s). There is a compounding of interference energy, as there are numerous sources, i.e. co channel, adjacent channels and alternate channels plus the noise from CMRS OOB.

There is insufficient information in 47 CFR § 90.543 to include the actual receiver performance. Receivers typically have “skirts” that allow energy outside the bandwidth of interest to be received. In addition, the FCC defines ACCP differently than does the TIA. The term used by the FCC is the same as the TIA definition of ACP. The subtle difference is that ACCP defines the energy intercepted by a defined receiver filter (e.g., 6 kHz ENBW). ACP defines the energy in a measured bandwidth that is typically wider than the receiver (e.g., 6.25 kHz channel bandwidth). As a result, the FCC values are optimistic at very close spacing and somewhat pessimistic at wider spacings, as the typical receiver filter is less than the channel bandwidth.

In addition, as channel bandwidth is increased, the total amount of noise intercepted rises compared to the level initially defined in a 6.25 kHz channel bandwidth. However, the effect is diminished at very close spacings as the slope of the noise curve falls off rapidly. At greater spacings, the slope of the noise curve is essentially flat and the receiver’s filter limits the noise to a rise in the thermal noise floor.

Digital receivers tend to be less tolerant to interference than analog. Therefore, a 3 dB reduction in the $C/(I+N)$ can reduce a $DAQ = 3$ to a $DAQ = 2$, which is threshold to complete muting in digital receivers. Therefore to maintain a $DAQ = 3$, at least 17 dB of fading margin plus the 26.4 dB margin for keeping the interference below 1% probability is required, for a total margin of 43.4 dB. However, this margin would be at the edge of the service area and the 40 dB μ service contour is allowed to extend past the edge of the service area.

Frequency drift is controlled by the FCC requirement for 0.4-ppm stability when locked. This equates to approximately a 1 dB standard deviation, which is negligible when associated with the recommended initial lognormal standard deviation of 8 dB and can be ignored.

Project 25 requires that a transceiver receiver have an ACIPR of 60 dB. This implies that an $ACCPR \geq 65$ dB will exist for a “companion receiver”. A companion receiver is one that is designed for the specific modulation. At this time the highest likelihood is that receivers will be deploying the following receiver bandwidths at the following channel bandwidths.

Estimated Receiver Parameters	
Channel Bandwidth	Receiver Bandwidth
6.25 kHz	5.5 kHz
12.5 kHz	5.5 or 9 kHz
25 kHz	18.0 kHz

Table 7 - Estimated Receiver Parameters

Based on 47 CFR ¶ 90.543 and the P25 requirement for an $ACCPR \geq 65$ 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 spectrum blocks.

The assumption is that initial spectrum coordination sorts are based on 25 kHz bandwidth 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.

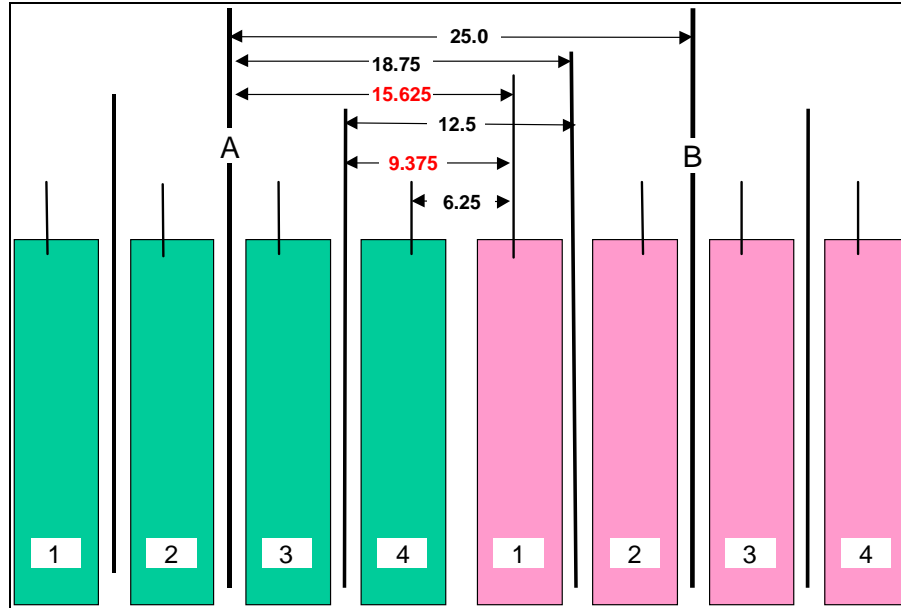


Figure 5, Potential Frequency Separations

Case	Spacing	ACCPR
25 kHz to 25 kHz	25 kHz	65 dB
25 kHz to 12.5 kHz	18.750 kHz	65 dB
25 kHz to 6.25 kHz	15.625 kHz	>40 dB
12.5 kHz to 12.5 kHz	12.5 kHz	65 dB
12.5 kHz to 6.25 kHz	9.375 kHz	>40 dB
6.25 kHz to 6.25 kHz	6.25 kHz	65 dB

Table 8 - 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 Project 25 Phase 2 narrowband 6.25 kHz channel. This pre-coordination based upon 25 kHz spectrum blocks still works if system designers and frequency coordinators keep this consideration in mind and move the edge 6.25 kHz channels inward away from the edge of the system. This approach allows a constant value of 65 dB ACCPR to be applied across all 25 kHz spectrum blocks regardless of what channel bandwidth is eventually deployed. There will also be additional coordination adjustments when exact system design details and antenna sites are known.

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 dB_μ service contour, at 60 dB_μ.

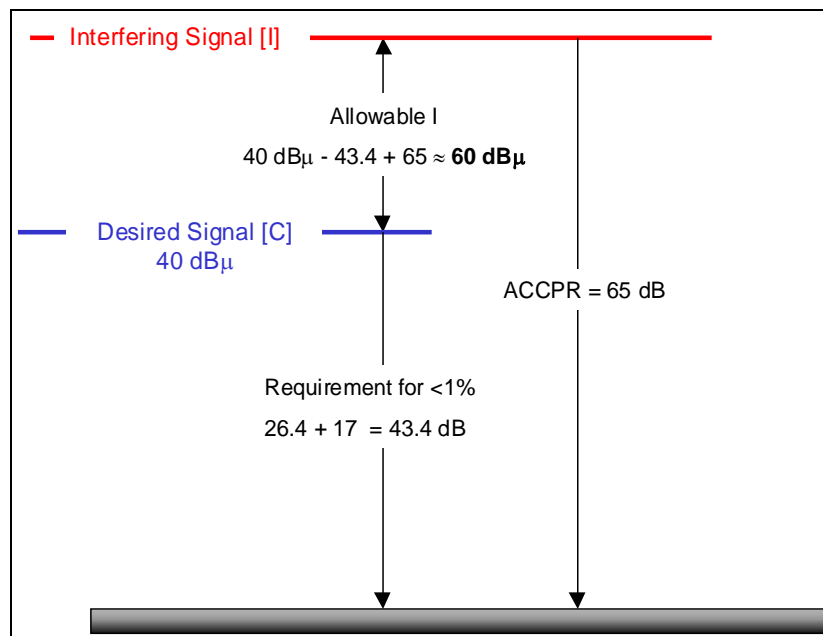


Figure 6 - Adjusted Adjacent 25 kHz Channel Interfering Contour Value

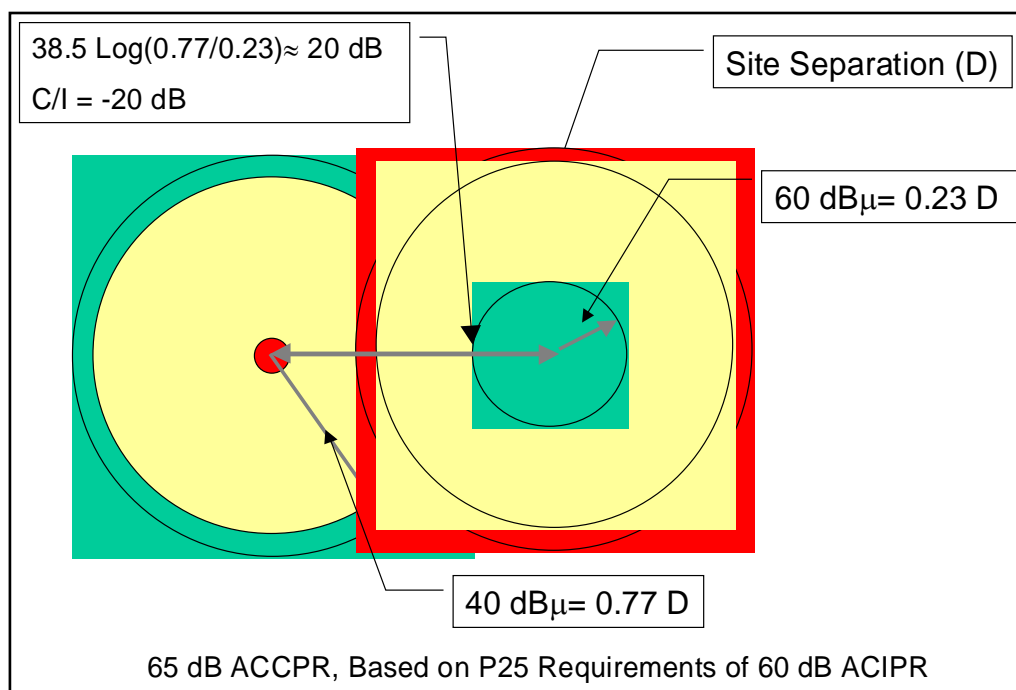


Figure 7 - Example Of Adjacent/Alternate Overlap Criterion

Adjacent Channel Interfering Contour Recommendation

An adjacent (25 kHz) channel shall be allowed to have its 60 dBμ (50,50) interfering contour touch but not overlap the 40 dBμ (50,50) service contour of a system being evaluated. Evaluations should be made in both directions.

Final Detailed Coordination

This simple method is only adequate for presorting large blocks of spectrum to potential entities. A more detailed analysis should be executed in the actual design phase to take all the issues into consideration.

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 Project 25 Phase 1 to Phase 2
- Actual ACCP
- Balanced Systems
- Mobiles vs. Portables
- Use of voting
- Use of simulcast
- Radio specifications
- Simplex Operation
- Future unidentified requirements.

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. This type operation is also quite common in the lower frequency bands. In those cases, evaluation of base-to-base as well as mobile-to-mobile interference should be considered and evaluated.

Appendix A

Carrier to Interference Requirements

There are two different ways that Interference is considered.

- Co Channel
- Adjacent and Alternate Channels

Both involve using a C/I ratio. The C/I ratio requires a probability be assigned. For example, if 10% Interference is specified, the C/I implies 90% probability of successfully achieving the desired ratio. 1% interference means that there is a 99% probability of achieving the desired C/I.

$$\frac{C}{I} \% = \frac{1}{2} \bullet \operatorname{erfc} \left(\frac{\frac{C}{I} \text{ margin}}{2\sigma} \right) \quad (1)$$

This can also be written in a form using the standard deviate unit (Z). In this case the Z for the desired probability of achieving the C/I is entered. For example, for a 90% probability of achieving the necessary C/I, $Z = 1.28$.

$$\frac{C}{I} \% = Z \cdot \sqrt{2} \cdot \sigma \quad (2)$$

The most common requirements for several typical lognormal standard deviations (σ) are included in the following table based on Equation (2).

Location Standard Deviation (σ) dB	5.6	6.5	8	10
Probability %				
10%	10.14 dB	11.77 dB	14.48 dB	18.10 dB
5%	13.07 dB	15.17 dB	18.67 dB	23.33 dB
4%	13.86 dB	16.09 dB	19.81 dB	24.76 dB
3%	14.90 dB	17.29 dB	21.28 dB	26.20 dB
2%	16.27 dB	18.88 dB	23.24 dB	29.04 dB
1%	18.45 dB	21.42 dB	26.36 dB	32.95 dB

Table A1 - Probability Of Not Achieving C/I For Various Location Lognormal Standard Deviations

These various relationships are shown in Figure A1, a continuous plot of equation(s) 1 and 2.

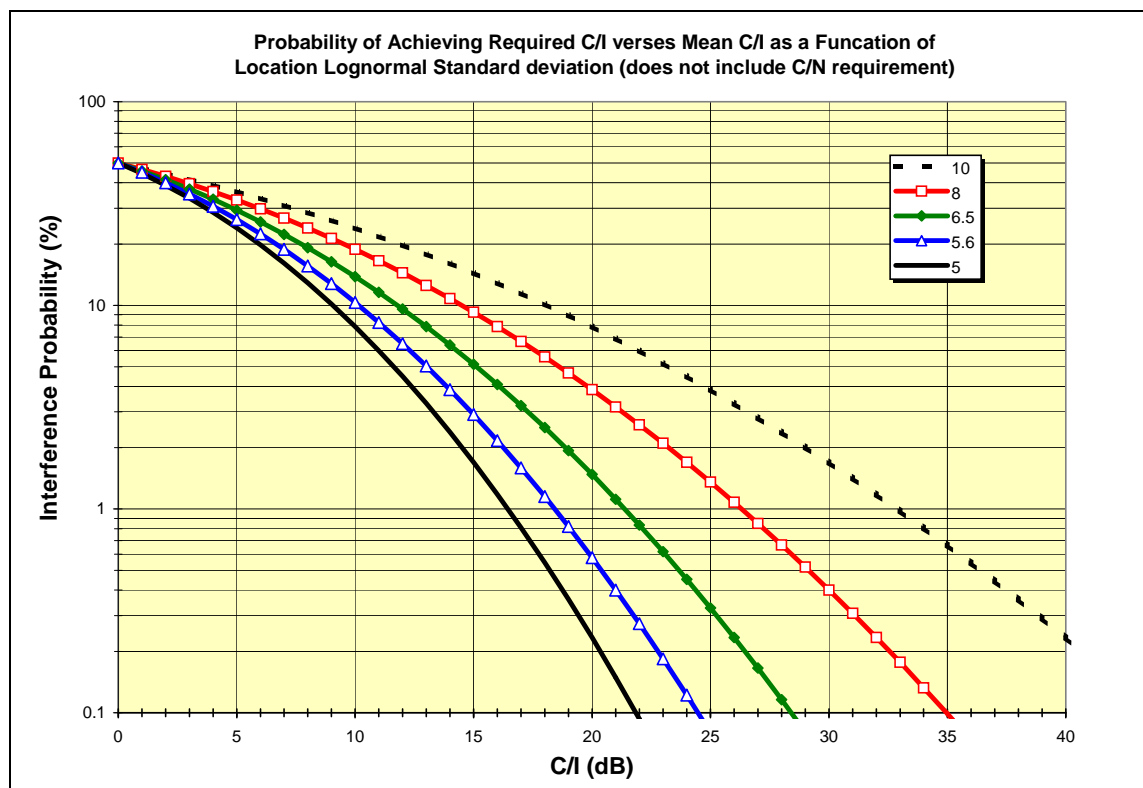


Figure A1, Probability Of Achieving Required C/I As A Function Of Location Standard Deviation

For co-channel the margin needs to include the "capture" requirement. When this is done, then a 1% probability of co channel interference can be rephrased to mean, there is a 99% probability that the "capture ratio" will be achieved. The capture ratio varies with the type of modulation. Older analog equipment has a capture ratio of approximately 7 dB. Project 25 FDMA is specified at 9 dB. Figure A1 shows the C/I requirement without including the capture requirement.

The 8 dB value for lognormal location standard deviation is reasonable when little information is available. Later when a detailed design is required, additional details and high-resolution terrain and land usage databases will allow a lower value to be used. The

TIA recommended value is 5.6 dB. Using 8 dB initially and changing to 5.6 dB provides additional flexibility necessary to complete the final system design.

To determine the desired probability that both the C/N and C/I will be achieved requires that a joint probability be determined. Figure A2 shows the effects of a family of various levels of C/N reliability and the joint probability (Y-axis) in the presence of various probabilities of Interference. Note that at 99% reliability with 1% interference (X-axis) that the reduction is nearly the difference. This is because the very high noise reliability is degraded by the interference, as there is little probability that the noise criterion will not be satisfied. At 90%, the 1% interference has a greater likelihood that it will occur simultaneously when the noise criterion not being met, resulting in less degradation of the 90%.

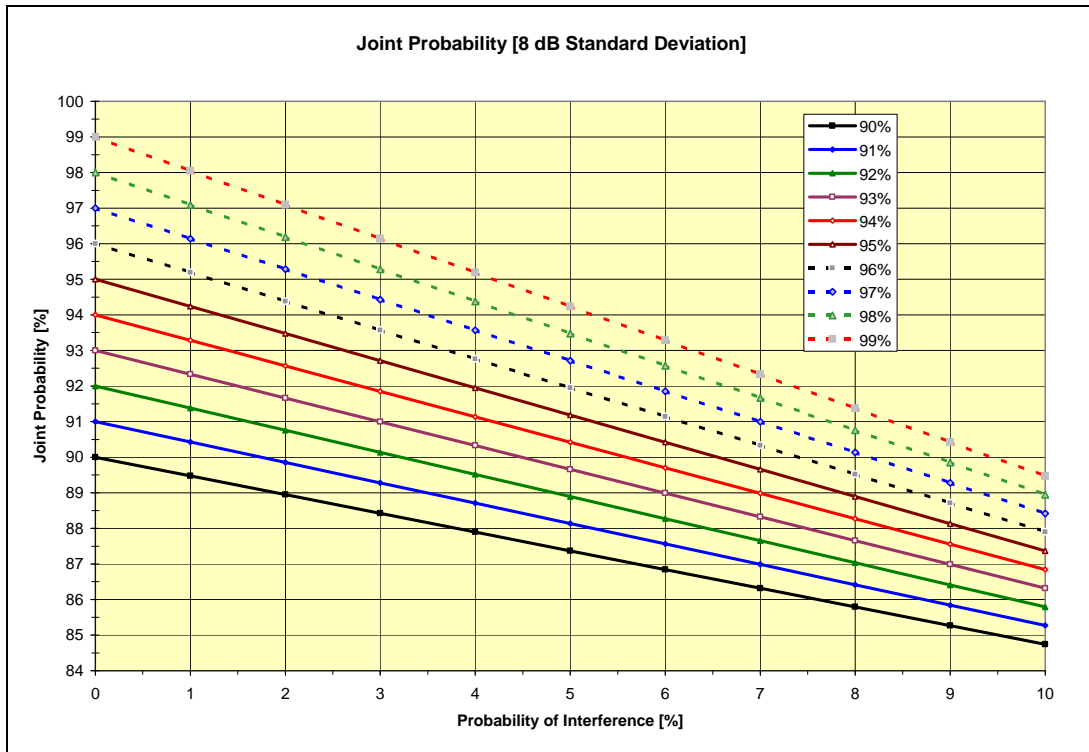
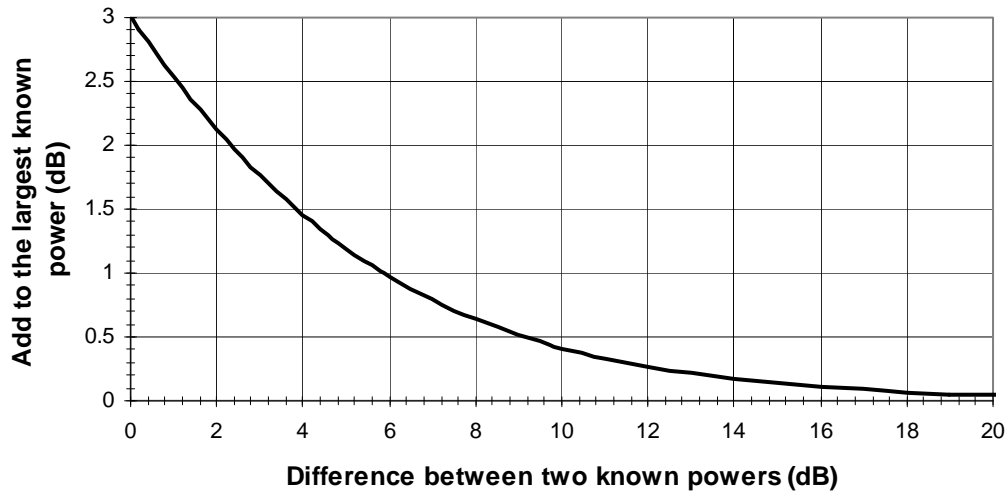


Figure A2 - Effect Of Joint Probability On The Composite Probability

For adjacent and alternate channels, the channel performance requirement must be added to the C/I ratio. When this is applied, then a 1% probability of adjacent/alternate channel interference can be rephrased to mean, there is a 99% probability that the “channel performance ratio” will be achieved.

Appendix B

Adding Two Known Non-Coherent Powers



In order to sum the power of two or more signals expressed in dBm or dBμ, they level should be converted to a voltage level or a power level, summed (root of the sum of the squares), and then converted back to dBm or dBμ.

The chart above provides simple method to sum two power levels expressed in dBm or dBμ. First find the difference between the two signals on the horizontal axis. Go up to the curve and across to the vertical axis to find the power delta. Add the power delta to the larger of the two original signal levels.

Example 1: Signal A is 36.4 dBμ. Signal B is 37.5 dBμ. Difference is 1.1 dB. Power delta is about 2.5 dB. Composite signal level is 37.5 dBμ + 2.5 dB = 40 dBμ.

Example 2: Signal is -96.3 dBm. Signal B is -95.2 dBm. Difference is 1.1 dB. Power delta is about 2.5 dB. Composite signal level is -95.2 dBm + 2.5 dB = -92.7 dBm.

Appendix E Adjacent Region Concurrences

47 Trinity Ave
Suite 610-16
Atlanta, Georgia 30334-9007

Phone: 404.463.2300
Fax: 404.463.2380



SONNY PERDUE
Governor

PATRICK MOORE
Executive Director and
State Chief Information Officer

January 4, 2011

Michael T. Hodgson, Chairman
Region 31, Regional Planning Committee
North Carolina State Highway Patrol
3318 Garner Road
Raleigh, NC 27610

Dear Mike:

As Chairman and on behalf of Region 10, 700MHz Regional Planning Committee, I am sending this Letter of Concurrence regarding the final Region 31, North Carolina, 700MHz Plan.

Region 10 looks forward to the continuing support and cooperation that your region has shown in improving public safety communications.

Sincerely,

A handwritten signature in black ink that reads "Jim Mollohan". The signature is fluid and cursive, with the first name "Jim" being more prominent than the last name "Mollohan".

Jim Mollohan
700/800MHz RPC, Region 10 Chairman
Georgia Technology Authority
47 Trinity Ave St SW
Ste 140-10
Atlanta, GA 30334-9007

Email: Jim.Mollohan@gta.ga.gov - Phone: 404-656-5619 - Fax: 770-344-5937

GTA's Mission:

To deliver secure, reliable technology services and solutions, and provide guidance and oversight that lead to sound decisions for Georgia government.

**700 MHz Regional
Planning Committee**

Region 39, Tennessee

**Region 39, 700 MHz Regional Planning Committee
John Johnson, Chairman
3041 Sidco Drive
Nashville, TN 37204**

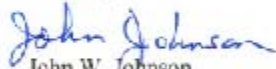
August 12, 2010

Dear Terry,

Region 39 has received and reviewed the Region 31 700 MHz Plan. On behalf of Region 39, by this letter, Region 39 concurs with the Region 31 Plan.

Region 39 requests that Region 31 allow us to review any FCC applications that affects our Region, prior to the application being submitted to the FCC and will respond in a timely manner, as set forth in our Dispute Resolution.

Sincerely,



**John W. Johnson
Chairman Region 39
700 MHz Regional Planning Committee**



City of Virginia Beach

VBgov.com

COMMUNICATIONS AND INFORMATION TECHNOLOGY
TELECOMMUNICATIONS
(757) 385-4171
FAC (757) 385-1610

MULTIMEDIA CENTER
BUILDING 101
2000 PINEAPPLE CREEK ROAD
VIRGINIA BEACH, VA 23464-1113

DATE: April 29, 2010
TO: Michael T. Hodgson
CC: Linda Boring and Dave Warner
FROM: Robert A. DeLauney, 700 MHz Region 42 Chairman
SUBJECT: Region 42 Concurrence with the Region 31 700 MHz Plan

Dear Mr. Hodgson,

This letter is in reference to the letter of concurrence in support of the 700 MHz Region 31 Plan. I am writing in my current role as the chairman for 700 MHz Regional Planning Committee 42.

Region 42 (Virginia) concurs with the Region 31 (North Carolina) 700 MHz plan. Region 42 has reviewed the 700 MHz Plan submitted by Region 31, and is satisfied that the plan addresses the necessary steps to coordinate with adjacent regions.

Region 42 looks forward to working with Region 31 in coordination of 700 MHz and other spectrum issues in the future.

Please contact me should you have any questions pertaining to this letter. You may reach me at 757-385-4066 or at rdelaune@vbgov.com.

Respectfully,

Robert A. DeLauney
Chairman, 700 MHz Regional Planning Committee 42

**Region 37 Committee
William Winn, Jr. – Chairman
PO Drawer 1228
Beaufort, SC 29901
843-255-4004
843-470-3054**

March 16, 2010

**Michael T. Hodgson
Chair, Region 31 North Carolina
North Carolina Highway Patrol
1300 Blue Ridge Rd.
Raleigh, NC 27607**

Dear Mr. Hodgson

Region 37 (South Carolina) is in receipt of your proposed 700 MHz Regional Plan, submitted to this Committee on 02/24/2010.

This letter serves as the official, written concurrence of Region 37 to Region 31's 700 MHz Regional Plan.

Sincerely,



**William Winn, Jr.
Chairperson Region 37**

Appendix F

Intra-Regional Dispute Resolution Agreement

*Inter-Regional Coordination Procedures
and
Procedures for Resolution of Disputes
That May Arise Under FCC Approved Plans
Between Region 31 North Carolina and Region 10 Georgia*

I. Coordination Procedures

I. INTRODUCTION

1. This is a mutually agreed upon Inter-Regional Coordination Procedures Agreement (Agreement) by and between the following 700 MHz Regional Planning Committees: North Carolina (Region 31) and Georgia (Region 10).

II. INTER-REGIONAL COORDINATION AGREEMENT

2. The following is the specific procedure for inter-regional coordination which has been agreed upon by Regions 31 and 10, and which will be used by the Regions to coordinate with adjacent Regional Planning Committees.

- a. An application filing window is opened or the Region announces that it is prepared to begin accepting applications on a first-come/first-served basis.
- b. Applications by eligible entities are accepted.
- c. An application filing window (if this procedure is being used) is closed after appropriate time interval.
- d. Intra-regional review and coordination takes place, including a technical review resulting in assignment of channels.
- e. After intra-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.¹ This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.

f. The adjacent Region reviews the application. If the application is approved, a letter of concurrence shall be sent, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days.

II. Dispute Resolution

(1) If the adjacent Region(s) cannot approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond within 10 (Ten) calendar days via email. 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 within thirty (30) calendar days to attempt to resolve the dispute. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons' email (CAPRAD database). Findings may include, but not be limited to:

- (i) Unconditional concurrence;
- (ii) conditional concurrence contingent upon modification of applicant's technical parameters; or
- (iii) 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.

(2) If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to a mutually agreeable dispute resolution

¹ If an applicant's proposed service area or interference contour extends into an adjacent Public Safety Region(s), the application must be approved by the affected Region(s). Service area shall normally be defined as the area included within the geographical boundary of the applicant, plus three (3) miles. Interference contour shall normally be defined as a 5 dBu co-channel contour or a 60 dBu adjacent channel contour. Other definitions of service area or interference shall be justified with an accompanying

process such as the one developed by the National Planning Oversight Committee (NPOC)², 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. Where adjacent Region concurrence has been secured, and the channel assignments would result in no change to the Region's currently Commission 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 Commission.

h. Where adjacent Region concurrence has been secured, and the channel assignments would result in a change to the Region's currently Commission approved channel assignment matrix, then the initiating Region shall file with the Commission a *Petition to Amend* their current Regional plan's frequency matrix, reflecting the new channel assignments, with a copy of the *Petition* sent to the adjacent Regional chairperson(s).

i. Upon Commission 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) and may then advise the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

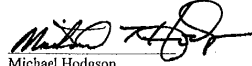
Memorandum of Understanding (MOU) or other application documentation between agencies, i.e. mutual aid agreements.

² The National Planning Oversight Committee (NPOC) is a committee within the National Public Safety Telecommunications Council (NPSTC) established to arbitrate disputes between 700 MHz Regions that cannot be resolved by the impacted Regions.

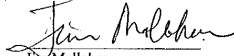
III. CONCLUSION

3. IN AGREEMENT HERETO, Regions 31 and 10 do hereunto set their signatures
the day and year first above written.

Respectfully,



Michael Hodgson
Chairperson Region 31



Jim Mellohan
Chairperson Region 10

Date: 20 January 2010

*Inter-Regional Coordination Procedures
and
Procedures for Resolution of Disputes
That May Arise Under FCC Approved Plans
Between Region 31 North Carolina and Region 37 South Carolina*

I. Coordination Procedures

I. INTRODUCTION

1. This is a mutually agreed upon Inter-Regional Coordination Procedures Agreement (Agreement) by and between the following 700 MHz Regional Planning Committees: North Carolina (Region 31) and South Carolina (Region 37).

II. INTER-REGIONAL COORDINATION AGREEMENT

2. The following is the specific procedure for inter-regional coordination which has been agreed upon by Regions 31 and 37, and which will be used by the Regions to coordinate with adjacent Regional Planning Committees.

a. An application filing window is opened or the Region announces that it is prepared to begin accepting applications on a first-come/first-served basis.

b. Applications by eligible entities are accepted.

c. An application filing window (if this procedure is being used) is closed after appropriate time interval.

d. Intra-regional review and coordination takes place, including a technical review resulting in assignment of channels.

e. After intra-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.¹ This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.

f. The adjacent Region reviews the application. If the application is approved, a letter of concurrence shall be sent, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days.

II. Dispute Resolution

(1) If the adjacent Region(s) cannot approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond within 10 (Ten) calendar days via email. 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 within thirty (30) calendar days to attempt to resolve the dispute. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons email (CAPRAD database). Findings may include, but not be limited to:

- (i) Unconditional concurrence;
- (ii) conditional concurrence contingent upon modification of applicant's technical parameters; or
- (iii) 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.

(2) If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to a mutually agreeable dispute resolution

¹ If an applicant's proposed service area or interference contour extends into an adjacent Public Safety Region(s), the application must be approved by the affected Region(s). Service area shall normally be defined as the area included within the geographical boundary of the applicant, plus three (3) miles. Interference contour shall normally be defined as a 5 dBu co-channel contour or a 60 dBu adjacent channel contour. Other definitions of service area or interference shall be justified with an accompanying

process such as the one developed by the National Planning Oversight Committee (NPOC)², 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. Where adjacent Region concurrence has been secured, and the channel assignments would result in no change to the Region's currently Commission 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 Commission.

h. Where adjacent Region concurrence has been secured, and the channel assignments would result in a change to the Region's currently Commission approved channel assignment matrix, then the initiating Region shall file with the Commission a *Petition to Amend* their current Regional plan's frequency matrix, reflecting the new channel assignments, with a copy of the *Petition* sent to the adjacent Regional chairperson(s).

i. Upon Commission 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) and may then advise the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

Memorandum of Understanding (MOU) or other application documentation between agencies, i.e. mutual aid agreements.


² The National Planning Oversight Committee (NPOC) is a committee within the National Public Safety Telecommunications Council (NPSTC) established to arbitrate disputes between 700 MHz Regions that cannot be resolved by the impacted Regions.

III. CONCLUSION

3. IN AGREEMENT HERETO, Regions 31 and 37 do hereby set their signatures
the day and year first above written.

Respectfully,


Michael Hodgson
Chairperson Region 31


William Winn
Chairperson Region 37

Date: 20 January 2010

*Inter-Regional Coordination Procedures
and
Procedures for Resolution of Disputes
That May Arise Under FCC Applications & Approved Plans*

I. Coordination Procedures

I. INTRODUCTION

1. This is a mutually agreed upon Inter-Regional Coordination Procedures Agreement (Agreement) by and between the following 700 MHz Regional Planning Committees, Region 31 (North Carolina) and Region 39 (Tennessee).

II. INTER-REGIONAL COORDINATION AGREEMENT

2. The following is the specific procedure for inter-regional coordination which has been agreed upon by Region 31 and Region 39, and which will be used by the Regions to coordinate with adjacent Regional Planning Committees.

- a. An application filing window is opened or the Region announces that it is prepared to begin accepting applications on a first-come/first-served basis.
- b. Applications by eligible entities are accepted.
- c. An application filing window (if this procedure is being used) is closed after appropriate time interval.
- d. Intra-regional review and coordination takes place, including a technical review resulting in assignment of channels.
- e. After intra-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.¹ This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.

f. The adjacent Region reviews the application. If the application is approved, a letter of concurrence shall be sent, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days.

II. Dispute Resolution

(1) If the adjacent Region(s) cannot approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond within 10 (Ten) calendar days via email. 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 within thirty (30) calendar days to attempt to resolve the dispute. The working group shall then report its findings within thirty (30) calendar days to the Regional chairperson's email (CAPRAD database). Findings may include, but not be limited to:

- (i) Unconditional concurrence;
- (ii) Conditional concurrence contingent upon modification of applicant's technical parameters; or
- (iii) 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.

(2) If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to the National Regional Planning Council

¹ If an applicant's proposed service area or interference contour extends into an adjacent Public Safety Region(s), the application must be approved by the affected Region(s). Service area shall normally be defined as the area included within the geographical boundary of the applicant, plus three (3) miles. Interference contour shall normally be defined as a 5 dBu co-channel contour or a 60 dBu adjacent channel contour. Other definitions of service area or interference shall be justified with an accompanying

(NRPC). 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 NRPC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD database. NRPC'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. Where adjacent Region concurrence has been secured, and the channel assignments would result in no change to the Region's currently Commission 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 Commission.

h. Where adjacent Region concurrence has been secured, and the channel assignments would result in a change to the Region's currently Commission approved channel assignment matrix, then the initiating Region shall file with the Commission a *Petition to Amend* their current Regional plan's frequency matrix, reflecting the new channel assignments, with a copy of the *Petition* sent to the adjacent Regional chairperson(s).

i. Upon Commission 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) and may then advise the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

Memorandum of Understanding (MOU) or other application documentation between agencies, i.e. mutual aid agreements.

III. CONCLUSION

3. IN AGREEMENT HERETO, Region 31 and Region 39 do hereunto set their signatures the day and year first above written.

Respectfully,

Michael Hodgson
Chairperson Region 31

John W. Johnson 6/3/2010

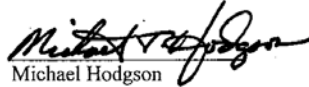
John W. Johnson
Chair, Region 39

Date: _____

III. CONCLUSION

3. IN AGREEMENT HERETO, Regions 31 and 39 do hereunto set their signatures
the day and year first above written.

Respectfully,


Michael Hodgson
Chairperson Region 31

John Johnson
Chairperson Region 39

Date: 20 JANUARY 2010

*Inter-Regional Coordination Procedures
and
Procedures for Resolution of Disputes
That May Arise Under FCC Approved Plans
Between Region 31 North Carolina and Region 42 Virginia*

I. Coordination Procedures

I. INTRODUCTION

1. This is a mutually agreed upon Inter-Regional Coordination Procedures Agreement (Agreement) by and between the following 700 MHz Regional Planning Committees: North Carolina (Region 31) and Virginia (Region 42).

II. INTER-REGIONAL COORDINATION AGREEMENT

2. The following is the specific procedure for inter-regional coordination which has been agreed upon by Regions 31 and 42, and which will be used by the Regions to coordinate with adjacent Regional Planning Committees.

- a. An application filing window is opened or the Region announces that it is prepared to begin accepting applications on a first-come/first-served basis.
- b. Applications by eligible entities are accepted.
- c. An application filing window (if this procedure is being used) is closed after appropriate time interval.
- d. Intra-regional review and coordination takes place, including a technical review resulting in assignment of channels.
- e. After intra-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.¹ This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.

¹ If an applicant's proposed service area or interference contour extends into an adjacent Public Safety Region(s), the application must be approved by the affected Region(s). Service area shall normally be defined as the area included within the geographical boundary of the applicant, plus three (3) miles. Interference contour shall normally be defined as a 5 dBu co-channel contour or a 60 dBu adjacent channel

f. The adjacent Region reviews the application. If the application is approved, a letter of concurrence shall be sent, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days.

II. Dispute Resolution

(1) If the adjacent Region(s) cannot approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond within 10 (Ten) calendar days via email. 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 within thirty (30) calendar days to attempt to resolve the dispute. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons email (CAPRAD database). Findings may include, but not be limited to:

- (i) Unconditional concurrence;
- (ii) conditional concurrence contingent upon modification of applicant's technical parameters; or
- (iii) 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.

(2) If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to a mutually agreeable dispute resolution process such as the one developed by the National Planning Oversight Committee

contour. Other definitions of service area or interference shall be justified with an accompanying *Memorandum of Understanding (MOU)* or other application documentation between agencies, i.e. mutual aid agreements.

(NPOC)², 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. Where adjacent Region concurrence has been secured, and the channel assignments would result in no change to the Region's currently Commission 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 Commission.

h. Where adjacent Region concurrence has been secured, and the channel assignments would result in a change to the Region's currently Commission approved channel assignment matrix, then the initiating Region shall file with the Commission a *Petition to Amend* their current Regional plan's frequency matrix, reflecting the new channel assignments, with a copy of the *Petition* sent to the adjacent Regional chairperson(s).

i. Upon Commission 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) and may then advise the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

III. CONCLUSION

3. IN AGREEMENT HERETO, Regions 36 and 20 do hereunto set their signatures the day and year first above written.

² The National Planning Oversight Committee (NPOC) is a committee within the National Public Safety Telecommunications Council (NPSTC) established to arbitrate disputes between 700 MHz Regions that cannot be resolved by the impacted Regions.

Respectfully,



Michael Hodgson
Chairperson Region 31



Robert DeLauney
Chairperson Region 42

Date: 20 January 2010

Appendix G
Table of 700 MHz Interoperability Channels

16 Channel Sets	Description	Label
<i>Channel 23 & 24</i>	<i>General Public Safety Services</i>	<i>7TAC51</i>
<i>Channel 103 & 104</i>	<i>General Public Safety Services</i>	<i>7TAC52</i>
<i>Channel 183 & 184</i>	<i>General Public Safety Services</i>	<i>7TAC53</i>
<i>Channel 263 & 264</i>	<i>General Public Safety Services</i>	<i>7TAC54</i>
Channel 39 & 40	Calling Channel	7CALL50
Channel 119 & 120	General Public Safety Service	7TAC55
Channel 199 & 200	General Public Safety Service	7TAC56
Channel 279 & 280	Mobile Data	7DATA69
Channel 63 & 64	Emergency Medical Service	7MED65
Channel 143 & 144	Fire Service	7FIRE63
Channel 223 & 224	Law Enforcement Service	7LAW61
Channel 303 & 304	Mobile Repeater	7MOB59
Channel 79 & 80	Emergency Medical Service	7MED66
Channel 159 & 160	Fire Service	7FIRE64
Channel 239 & 240	Law Enforcement Service	7LAW62
Channel 319 & 320	Other Public Service	7GTAC57
<i>Channel 657 & 658</i>	<i>General Public Safety Services</i>	<i>7TAC71</i>
<i>Channel 737 & 738</i>	<i>General Public Safety Services</i>	<i>7TAC72</i>
<i>Channel 817 & 818</i>	<i>General Public Safety Services</i>	<i>7TAC73</i>
<i>Channel 897 & 898</i>	<i>General Public Safety Service</i>	<i>7TAC74</i>
Channel 681 & 682	Calling Channel	7CALL70
Channel 761 & 762	General Public Safety Service	7TAC75
Channel 841 & 842	General Public Safety Service	7TAC76
Channel 921 & 922	Mobile Data	7DATA89
Channel 641 & 642	Emergency Medical Service	7MED86
Channel 721 & 722	Fire Service	7FIRE83
Channel 801 & 802	Law Enforcement Service	7LAW81
Channel 881 & 882	Mobile Repeater	7MOB79
Channel 697 & 698	Emergency Medical Service	7MED87
Channel 777 & 778	Fire Service	7FIRE84
Channel 857 & 858	Law Enforcement Service	7LAW82
Channel 937 & 938	Other Public Services	7GTAC77

Project 25 Common Air Interface Interoperability Channel Technical 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.

The use of 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 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 H
Region 31 Channel Allotments
Per April 27, 2008 CAPRAD Re-Sort

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Alamance	General Use	Voice 25 kHz	205-208	770.2875	800.2875
	General Use	Voice 25 kHz	353-356	771.2125	801.2125
	General Use	Voice 25 kHz	413-416	771.5875	801.5875
	General Use	Voice 25 kHz	465-468	771.9125	801.9125
	General Use	Voice 25 kHz	573-576	772.5875	802.5875
	General Use	Voice 25 kHz	613-616	772.8375	802.7375
	General Use	Voice 25 kHz	669-672	773.1875	803.1875
	General Use	Voice 25 kHz	781-784	773.8875	803.8875
	General Use	Voice 25 kHz	821-824	774.1375	804.1375
	General Use	Voice 25 kHz	861-864	774.3875	804.3875
Alexander	General Use	Voice 25 kHz	97-100	769.6125	799.6125
	General Use	Voice 25 kHz	217-220	770.3625	800.3625
	General Use	Voice 25 kHz	333-336	771.0875	801.0875
	General Use	Voice 25 kHz	521-524	772.2625	802.2625
	General Use	Voice 25 kHz	789-792	773.9375	803.9375
Allegheny	General Use	Voice 25 kHz	93-96	769.5875	799.5875
	General Use	Voice 25 kHz	209-212	770.3125	800.3125
	General Use	Voice 25 kHz	345-348	771.1625	801.1625
	General Use	Voice 25 kHz	441-444	771.7625	801.7625
	General Use	Voice 25 kHz	749-752	773.6875	803.6875
Anson	General Use	Voice 25 kHz	49-52	769.3125	799.3125
	General Use	Voice 25 kHz	129-132	769.8125	799.8125
	General Use	Voice 25 kHz	333-336	771.0875	801.0875
	General Use	Voice 25 kHz	433-436	771.7125	801.7125
	General Use	Voice 25 kHz	477-480	771.9875	801.9875
	General Use	Voice 25 kHz	713-716	773.4625	803.4625
Ashe	General Use	Voice 25 kHz	253-256	770.5875	800.5875
	General Use	Voice 25 kHz	369-372	771.3125	801.3125
	General Use	Voice 25 kHz	461-464	771.8875	801.8875
	General Use	Voice 25 kHz	513-516	772.2125	802.2125
	General Use	Voice 25 kHz	833-836	774.2125	804.2125
Avery	General Use	Voice 25 kHz	249-252	770.5625	800.5625
	General Use	Voice 25 kHz	405-408	771.5375	801.5375
	General Use	Voice 25 kHz	517-520	772.2375	802.2375
	General Use	Voice 25 kHz	625-628	772.9125	802.9125
	General Use	Voice 25 kHz	913-916	774.7125	804.7125

Appendix H Continued					
County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Beaufort	General Use	Voice 25 kHz	49-52	769.3125	799.3125
	General Use	Voice 25 kHz	89-92	769.5625	799.5625
	General Use	Voice 25 kHz	209-212	770.3125	800.3125
	General Use	Voice 25 kHz	297-300	770.8625	800.8625
	General Use	Voice 25 kHz	337-340	771.1125	801.1125
	General Use	Voice 25 kHz	377-380	771.3625	801.3625
	General Use	Voice 25 kHz	457-460	771.8625	801.8625
	General Use	Voice 25 kHz	561-564	772.5125	802.5125
	General Use	Voice 25 kHz	609-612	772.8125	802.8125
	General Use	Voice 25 kHz	741-744	773.6375	803.6375
	General Use	Voice 25 kHz	821-824	774.1375	804.1375
	General Use	Voice 25 kHz			
Bertie	General Use	Voice 25 kHz	293-296	770.8375	800.8375
	General Use	Voice 25 kHz	349-352	771.1875	801.1875
	General Use	Voice 25 kHz	453-456	771.8375	801.8375
	General Use	Voice 25 kHz	501-504	772.1375	802.1375
	General Use	Voice 25 kHz	593-596	772.7125	802.7125
	General Use	Voice 25 kHz	785-788	773.9125	803.9125
	General Use	Voice 25 kHz	861-864	774.3875	804.3875
	General Use	Voice 25 kHz	909-912	774.6875	804.6875
Bladen	General Use	Voice 25 kHz	13-16	769.0875	799.0875
	General Use	Voice 25 kHz	121-124	769.7625	799.7625
	General Use	Voice 25 kHz	249-252	770.5625	800.5625
	General Use	Voice 25 kHz	349-352	771.1875	801.1875
	General Use	Voice 25 kHz	397-400	771.4875	801.4875
	General Use	Voice 25 kHz	461-464	771.8875	801.8875
	General Use	Voice 25 kHz	605-608	772.7875	802.7875
Brunswick	General Use	Voice 25 kHz	49-52	769.3125	799.3125
	General Use	Voice 25 kHz	97-100	769.6125	799.6125
	General Use	Voice 25 kHz	289-292	770.8125	800.8125
	General Use	Voice 25 kHz	429-432	771.6875	801.6875
	General Use	Voice 25 kHz	469-472	771.9375	801.9375
	General Use	Voice 25 kHz	537-540	772.3625	802.3625
	General Use	Voice 25 kHz	597-600	772.7375	802.7375
	General Use	Voice 25 kHz	637-640	772.9875	802.9875
	General Use	Voice 25 kHz	709-712	773.4375	803.4375
	General Use	Voice 25 kHz	781-784	773.8875	803.8875
	General Use	Voice 25 kHz	861-864	774.3875	804.3875
	General Use	Voice 25 kHz	917-920	774.7375	804.7375

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Buncombe	General Use	Voice 25 kHz	13-16	769.0875	799.0875
	General Use	Voice 25 kHz	125-128	769.7875	799.7875
	General Use	Voice 25 kHz	177-180	770.1125	800.1125
	General Use	Voice 25 kHz	357-360	771.2375	801.2375
	General Use	Voice 25 kHz	429-432	771.6875	801.6875
	General Use	Voice 25 kHz	505-508	772.1625	802.1625
	General Use	Voice 25 kHz	557-560	772.4875	802.4875
	General Use	Voice 25 kHz	601-604	772.7625	802.7625
	General Use	Voice 25 kHz	709-712	773.4375	803.4375
	General Use	Voice 25 kHz	785-788	773.9125	803.9125
	General Use	Voice 25 kHz	909-912	774.6875	804.6875
Burke	General Use	Voice 25 kHz	137-140	769.8625	799.8625
	General Use	Voice 25 kHz	321-324	771.0125	801.0125
	General Use	Voice 25 kHz	485-488	772.0375	802.0375
	General Use	Voice 25 kHz	561-564	772.5125	802.5125
	General Use	Voice 25 kHz	617-620	772.8625	802.8625
	General Use	Voice 25 kHz	757-760	773.7375	803.7375
Cabarrus	General Use	Voice 25 kHz	209-212	770.3125	800.3125
	General Use	Voice 25 kHz	369-372	771.3125	801.3125
	General Use	Voice 25 kHz	441-444	771.7625	801.7625
	General Use	Voice 25 kHz	533-536	772.3375	802.3375
	General Use	Voice 25 kHz	597-600	772.7375	802.7375
	General Use	Voice 25 kHz	709-712	773.4375	803.4375
	General Use	Voice 25 kHz	793-796	773.9625	803.9625
	General Use	Voice 25 kHz	913-916	774.7125	804.7125
Caldwell	General Use	Voice 25 kHz	289-292	770.8125	800.8125
	General Use	Voice 25 kHz	353-356	771.2125	801.2125
	General Use	Voice 25 kHz	453-456	771.8375	801.8375
	General Use	Voice 25 kHz	581-584	772.6375	802.6375
	General Use	Voice 25 kHz	837-840	774.2375	804.2375
	General Use	Voice 25 kHz	877-880	774.4875	804.4875
Camden	General Use	Voice 25 kHz	289-292	770.8125	800.8125
	General Use	Voice 25 kHz	409-412	771.5625	801.5625
	General Use	Voice 25 kHz	449-452	771.8125	801.8125
	General Use	Voice 25 kHz	505-508	772.1625	802.1625
	General Use	Voice 25 kHz	557-560	772.4875	802.4875

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Carteret	General Use	Voice 25 kHz	45-48	769.2875	799.2875
	General Use	Voice 25 kHz	85-88	769.5375	799.5375
	General Use	Voice 25 kHz	125-128	769.7875	799.7875
	General Use	Voice 25 kHz	173-176	770.0875	800.0875
	General Use	Voice 25 kHz	213-216	770.3375	800.3375
	General Use	Voice 25 kHz	257-260	770.6125	800.6125
	General Use	Voice 25 kHz	341-344	771.1375	801.1375
	General Use	Voice 25 kHz	409-412	771.5625	801.5625
	General Use	Voice 25 kHz	461-464	771.8875	801.8875
	General Use	Voice 25 kHz	501-504	772.1375	802.1375
	General Use	Voice 25 kHz	541-544	772.3875	802.3875
	General Use	Voice 25 kHz	605-608	772.7875	802.7875
	General Use	Voice 25 kHz	665-668	773.1625	803.1625
	General Use	Voice 25 kHz	797-800	773.9875	803.9875
	General Use	Voice 25 kHz	837-840	774.2375	804.2375
	General Use	Voice 25 kHz	877-880	774.4875	804.4875
	General Use	Voice 25 kHz	917-920	774.7375	804.7375
Caswell	General Use	Voice 25 kHz	173-176	770.0875	800.0875
	General Use	Voice 25 kHz	389-392	771.4375	801.4375
	General Use	Voice 25 kHz	433-436	771.7125	801.7125
	General Use	Voice 25 kHz	521-524	772.2625	802.2625
	General Use	Voice 25 kHz	869-872	774.4375	804.4375
Catawba	General Use	Voice 25 kHz	129-132	769.8125	799.8125
	General Use	Voice 25 kHz	169-172	770.0625	800.0625
	General Use	Voice 25 kHz	373-376	771.3375	801.3375
	General Use	Voice 25 kHz	445-448	771.7875	801.7875
	General Use	Voice 25 kHz	497-500	772.1125	802.1125
	General Use	Voice 25 kHz	593-596	772.7125	802.7125
	General Use	Voice 25 kHz	713-716	773.4625	803.4625
	General Use	Voice 25 kHz	917-920	774.7375	804.7375
Chatham	General Use	Voice 25 kHz	361-364	771.2625	801.2625
	General Use	Voice 25 kHz	405-408	771.5375	801.5375
	General Use	Voice 25 kHz	553-556	772.4625	802.4625
	General Use	Voice 25 kHz	593-596	772.7125	802.7125
	General Use	Voice 25 kHz	677-680	773.2375	803.2375
	General Use	Voice 25 kHz	749-752	773.6875	803.6875

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Cherokee	General Use	Voice 25 kHz	401-404	771.5125	801.5125
	General Use	Voice 25 kHz	497-500	772.1125	802.1125
	General Use	Voice 25 kHz	557-560	772.4875	802.4875
	General Use	Voice 25 kHz	661-664	773.1375	803.1375
	General Use	Voice 25 kHz	869-872	774.4375	804.4375
Chowan	General Use	Voice 25 kHz	97-100	769.6125	799.6125
	General Use	Voice 25 kHz	165-168	770.0375	800.0375
	General Use	Voice 25 kHz	365-368	771.2875	801.2875
	General Use	Voice 25 kHz	445-448	771.7875	801.7875
	General Use	Voice 25 kHz	485-488	772.0375	802.0375
	General Use	Voice 25 kHz	757-760	773.7375	803.7375
	General Use	Voice 25 kHz	797-800	773.9875	803.9875
	General Use	Voice 25 kHz	837-840	774.2375	804.2375
Clay	General Use	Voice 25 kHz	13-16	769.0875	799.0875
	General Use	Voice 25 kHz	81-84	769.5125	799.5125
	General Use	Voice 25 kHz	633-636	772.9625	802.9625
	General Use	Voice 25 kHz	753-756	773.7125	803.7125
	General Use	Voice 25 kHz	905-908	774.6625	804.6625
Cleveland	General Use	Voice 25 kHz	205-208	770.2875	800.2875
	General Use	Voice 25 kHz	365-368	771.2875	801.2875
	General Use	Voice 25 kHz	457-460	771.8625	801.8625
	General Use	Voice 25 kHz	529-532	772.3125	802.3125
	General Use	Voice 25 kHz	585-588	772.6625	802.6625
	General Use	Voice 25 kHz	665-668	773.1625	803.1625
Columbus	General Use	Voice 25 kHz	129-132	769.8125	799.8125
	General Use	Voice 25 kHz	205-208	770.2875	800.2875
	General Use	Voice 25 kHz	281-284	770.7625	800.7625
	General Use	Voice 25 kHz	329-332	771.0625	801.0625
	General Use	Voice 25 kHz	369-372	771.3125	801.3125
	General Use	Voice 25 kHz	413-416	771.5875	801.5875
	General Use	Voice 25 kHz	453-456	771.8375	801.8375
	General Use	Voice 25 kHz	513-516	772.2125	802.2125
	General Use	Voice 25 kHz	553-556	772.4625	802.4625
	General Use	Voice 25 kHz	877-880	774.4875	804.4875

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Craven	General Use	Voice 25 kHz	13-16	769.0875	799.0875
	General Use	Voice 25 kHz	97-100	769.6125	799.6125
	General Use	Voice 25 kHz	249-252	770.5625	800.5625
	General Use	Voice 25 kHz	325-328	771.0375	801.0375
	General Use	Voice 25 kHz	369-372	771.3125	801.3125
	General Use	Voice 25 kHz	417-420	771.6125	801.6125
	General Use	Voice 25 kHz	485-488	772.0375	802.0375
	General Use	Voice 25 kHz	525-528	772.2875	802.2875
	General Use	Voice 25 kHz	577-580	772.6125	802.6125
	General Use	Voice 25 kHz	637-640	772.9875	802.9875
	General Use	Voice 25 kHz	705-708	773.4125	803.4125
	General Use	Voice 25 kHz	749-752	773.6875	803.6875
Cumberland	General Use	Voice 25 kHz	49-52	769.3125	799.3125
	General Use	Voice 25 kHz	93-96	769.5875	799.5875
	General Use	Voice 25 kHz	137-140	769.8625	799.8625
	General Use	Voice 25 kHz	201-204	770.2625	800.2625
	General Use	Voice 25 kHz	241-244	770.5125	800.5125
	General Use	Voice 25 kHz	285-288	770.7875	800.7875
	General Use	Voice 25 kHz	325-328	771.0375	801.0375
	General Use	Voice 25 kHz	409-412	771.5625	801.5625
	General Use	Voice 25 kHz	449-452	771.8125	801.8125
	General Use	Voice 25 kHz	501-504	772.1375	802.1375
	General Use	Voice 25 kHz	541-544	772.3875	802.3875
	General Use	Voice 25 kHz	589-592	772.6875	802.6875
	General Use	Voice 25 kHz	633-636	772.9625	802.9625
	General Use	Voice 25 kHz	673-676	773.2125	803.2125
	General Use	Voice 25 kHz	713-716	773.4625	803.4625
	General Use	Voice 25 kHz	757-760	773.7375	803.7375
	General Use	Voice 25 kHz	797-800	773.9875	803.9875
	General Use	Voice 25 kHz	837-840	774.2375	804.2375
	General Use	Voice 25 kHz	901-904	774.6375	804.6375
	General Use	Voice 25 kHz	941-944	774.8875	804.8875
Currituck	General Use	Voice 25 kHz	81-84	769.5125	799.5125
	General Use	Voice 25 kHz	169-172	770.0625	800.0625
	General Use	Voice 25 kHz	245-248	770.5375	800.5375
	General Use	Voice 25 kHz	341-344	771.1375	801.1375
	General Use	Voice 25 kHz	437-440	771.7375	801.7375
	General Use	Voice 25 kHz	541-544	772.3875	802.3875
	General Use	Voice 25 kHz	609-612	772.8125	802.8125

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Dare	General Use	Voice 25 kHz	57-60	769.3625	799.3625
	General Use	Voice 25 kHz	129-132	769.8125	799.8125
	General Use	Voice 25 kHz	205-208	770.2875	800.2875
	General Use	Voice 25 kHz	325-328	771.0375	801.0375
	General Use	Voice 25 kHz	381-384	771.3875	801.3875
	General Use	Voice 25 kHz	421-424	771.6375	801.6375
	General Use	Voice 25 kHz	465-468	771.9125	801.9125
	General Use	Voice 25 kHz	529-532	772.3125	802.3125
	General Use	Voice 25 kHz	577-580	772.6125	802.6125
	General Use	Voice 25 kHz	621-624	772.8875	802.8875
	General Use	Voice 25 kHz	677-680	773.2375	803.2375
	General Use	Voice 25 kHz	717-720	773.4875	803.4875
	General Use	Voice 25 kHz	781-784	773.8875	803.8875
	General Use	Voice 25 kHz	861-864	774.3875	804.3875
	General Use	Voice 25 kHz	941-944	774.8875	804.8875
Davidson	General Use	Voice 25 kHz	89-92	769.5625	799.5625
	General Use	Voice 25 kHz	249-252	770.5625	800.5625
	General Use	Voice 25 kHz	329-332	771.0625	801.0625
	General Use	Voice 25 kHz	417-420	771.6125	801.6125
	General Use	Voice 25 kHz	485-488	772.0375	802.0375
	General Use	Voice 25 kHz	545-548	772.4125	802.4125
	General Use	Voice 25 kHz	609-612	772.8125	802.8125
	General Use	Voice 25 kHz	673-676	773.2125	803.2125
	General Use	Voice 25 kHz	901-904	774.6375	804.6375
Davie	General Use	Voice 25 kHz	133-136	769.8375	799.8375
	General Use	Voice 25 kHz	293-296	770.8375	800.8375
	General Use	Voice 25 kHz	341-344	771.1375	801.1375
	General Use	Voice 25 kHz	565-568	772.5375	802.5375
	General Use	Voice 25 kHz	941-944	774.8875	804.8875
Duplin	General Use	Voice 25 kHz	17-20	769.1125	799.1125
	General Use	Voice 25 kHz	209-212	770.3125	800.3125
	General Use	Voice 25 kHz	293-296	770.8375	800.8375
	General Use	Voice 25 kHz	365-368	771.2875	801.2875
	General Use	Voice 25 kHz	465-468	771.9125	801.9125
	General Use	Voice 25 kHz	505-508	772.1625	802.1625
	General Use	Voice 25 kHz	545-548	772.4125	802.4125
	General Use	Voice 25 kHz	601-604	772.7625	802.7625
	General Use	Voice 25 kHz	793-796	773.9625	803.9625

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Durham	General Use	Voice 25 kHz	201-204	770.2625	800.2625
	General Use	Voice 25 kHz	245-248	770.5375	800.5375
	General Use	Voice 25 kHz	293-296	770.8375	800.8375
	General Use	Voice 25 kHz	341-344	771.1375	801.1375
	General Use	Voice 25 kHz	385-388	771.4125	801.4125
	General Use	Voice 25 kHz	429-432	771.6875	801.6875
	General Use	Voice 25 kHz	469-472	771.9375	801.9375
	General Use	Voice 25 kHz	541-544	772.3875	802.3875
	General Use	Voice 25 kHz	605-608	772.7875	802.7875
	General Use	Voice 25 kHz	713-716	773.4625	803.4625
	General Use	Voice 25 kHz	793-796	773.9625	803.9625
	General Use	Voice 25 kHz	833-836	774.2125	804.2125
	General Use	Voice 25 kHz	873-876	774.4625	804.4625
	General Use	Voice 25 kHz	913-916	774.7125	804.7125
Edgecombe	General Use	Voice 25 kHz	57-60	769.3625	799.3625
	General Use	Voice 25 kHz	165-168	770.0375	800.0375
	General Use	Voice 25 kHz	217-220	770.3625	800.3625
	General Use	Voice 25 kHz	281-284	770.7625	800.7625
	General Use	Voice 25 kHz	333-336	771.0875	801.0875
	General Use	Voice 25 kHz	397-400	771.4875	801.4875
	General Use	Voice 25 kHz	489-492	772.0625	802.0625
	General Use	Voice 25 kHz	541-544	772.3875	802.3875
	General Use	Voice 25 kHz	605-608	772.7875	802.7875
	General Use	Voice 25 kHz	941-944	774.8875	804.8875
Forsyth	General Use	Voice 25 kHz	125-128	769.7875	799.7875
	General Use	Voice 25 kHz	177-180	770.1125	800.1125
	General Use	Voice 25 kHz	241-244	770.5125	800.5125
	General Use	Voice 25 kHz	281-284	770.7625	800.7625
	General Use	Voice 25 kHz	349-352	771.1875	801.1875
	General Use	Voice 25 kHz	397-400	771.4875	801.4875
	General Use	Voice 25 kHz	457-460	771.8625	801.8625
	General Use	Voice 25 kHz	505-508	772.1625	802.1625
	General Use	Voice 25 kHz	557-560	772.4875	802.4875
	General Use	Voice 25 kHz	617-620	772.8625	802.8625
	General Use	Voice 25 kHz	665-668	773.1625	803.1625
	General Use	Voice 25 kHz	745-748	773.6625	803.6625
	General Use	Voice 25 kHz	825-828	774.1625	804.1625
	General Use	Voice 25 kHz	865-868	774.4125	804.4125

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Franklin	General Use	Voice 25 kHz	285-288	770.7875	800.7875
	General Use	Voice 25 kHz	365-368	771.2875	801.2875
	General Use	Voice 25 kHz	409-412	771.5625	801.5625
	General Use	Voice 25 kHz	505-508	772.1625	802.1625
	General Use	Voice 25 kHz	565-568	772.5375	802.5375
	General Use	Voice 25 kHz	637-640	772.9875	802.9875
Gaston	General Use	Voice 25 kHz	41-44	769.2625	799.2625
	General Use	Voice 25 kHz	173-176	770.0875	800.0875
	General Use	Voice 25 kHz	213-216	770.3375	800.3375
	General Use	Voice 25 kHz	257-260	770.6125	800.6125
	General Use	Voice 25 kHz	297-300	770.8625	800.8625
	General Use	Voice 25 kHz	345-348	771.1625	801.1625
	General Use	Voice 25 kHz	417-420	771.6125	801.6125
	General Use	Voice 25 kHz	465-468	771.9125	801.9125
	General Use	Voice 25 kHz	629-632	772.9375	802.9375
	General Use	Voice 25 kHz	797-800	773.9875	803.9875
Gates	General Use	Voice 25 kHz	129-132	769.8125	799.8125
	General Use	Voice 25 kHz	205-208	770.2875	800.2875
	General Use	Voice 25 kHz	373-376	771.3375	801.3375
	General Use	Voice 25 kHz	469-472	771.9375	801.9375
	General Use	Voice 25 kHz	525-528	772.9875	802.9875
Graham	General Use	Voice 25 kHz	121-124	769.7625	799.7625
	General Use	Voice 25 kHz	177-180	770.1125	800.1125
	General Use	Voice 25 kHz	513-516	772.2125	802.2125
	General Use	Voice 25 kHz	601-604	772.7625	802.7625
	General Use	Voice 25 kHz	781-784	773.8875	803.8875
Granville	General Use	Voice 25 kHz	41-44	769.2625	799.2625
	General Use	Voice 25 kHz	81-84	769.5125	799.5125
	General Use	Voice 25 kHz	357-360	771.2375	801.2375
	General Use	Voice 25 kHz	445-448	771.7875	801.7875
	General Use	Voice 25 kHz	517-520	772.2375	802.2375
	General Use	Voice 25 kHz	585-588	772.6625	802.6625
	General Use	Voice 25 kHz	672-676	773.2125	803.2125

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Greene	General Use	Voice 25 kHz	257-260	770.6125	800.6125
	General Use	Voice 25 kHz	357-360	771.2375	801.2375
	General Use	Voice 25 kHz	461-464	771.8875	801.8875
	General Use	Voice 25 kHz	585-588	772.6625	802.6625
	General Use	Voice 25 kHz	901-904	774.6375	804.6375
Guilford	General Use	Voice 25 kHz	17-20	769.1125	799.1125
	General Use	Voice 25 kHz	81-84	769.5125	799.5125
	General Use	Voice 25 kHz	137-140	769.8625	799.8625
	General Use	Voice 25 kHz	257-260	770.6125	800.6125
	General Use	Voice 25 kHz	297-300	770.8625	800.8625
	General Use	Voice 25 kHz	373-376	771.3375	801.3375
	General Use	Voice 25 kHz	425-428	771.6625	801.6625
	General Use	Voice 25 kHz	473-476	771.9625	801.9625
	General Use	Voice 25 kHz	513-516	772.2125	802.2125
	General Use	Voice 25 kHz	585-588	772.6625	802.6625
	General Use	Voice 25 kHz	629-632	772.9375	802.9375
	General Use	Voice 25 kHz	705-708	773.4125	803.4125
	General Use	Voice 25 kHz	757-760	773.7375	803.7375
	General Use	Voice 25 kHz	797-800	773.9875	803.9875
	General Use	Voice 25 kHz	837-840	774.2375	804.2375
	General Use	Voice 25 kHz	877-880	774.4875	804.4875
	General Use	Voice 25 kHz	917-920	774.7375	804.7375
Halifax	General Use	Voice 25 kHz	17-20	769.1125	799.1125
	General Use	Voice 25 kHz	85-88	769.5375	799.5375
	General Use	Voice 25 kHz	201-204	770.2625	800.2625
	General Use	Voice 25 kHz	325-328	771.0375	801.0375
	General Use	Voice 25 kHz	433-436	771.7125	801.7125
	General Use	Voice 25 kHz	529-532	772.3125	802.3125
	General Use	Voice 25 kHz	581-584	772.6375	802.6375
	General Use	Voice 25 kHz	705-708	773.4125	803.4125
	General Use	Voice 25 kHz	745-748	773.6625	803.6625
	General Use	Voice 25 kHz	793-796	773.9625	803.9625
	General Use	Voice 25 kHz	869-872	774.4375	804.4375

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Harnett	General Use	Voice 25 kHz	85-88	769.5375	799.5375
	General Use	Voice 25 kHz	177-180	770.1125	800.1125
	General Use	Voice 25 kHz	333-336	771.0875	801.0875
	General Use	Voice 25 kHz	393-396	771.4625	801.4625
	General Use	Voice 25 kHz	433-436	771.7125	801.7125
	General Use	Voice 25 kHz	481-484	772.0125	802.0125
	General Use	Voice 25 kHz	525-528	772.2875	802.2875
	General Use	Voice 25 kHz	569-572	772.5625	802.5625
	General Use	Voice 25 kHz	609-612	772.8125	802.8125
Haywood	General Use	Voice 25 kHz	49-52	769.3125	799.3125
	General Use	Voice 25 kHz	257-260	770.6125	800.6125
	General Use	Voice 25 kHz	333-336	771.0875	801.0875
	General Use	Voice 25 kHz	409-412	771.5625	801.5625
	General Use	Voice 25 kHz	833-836	774.2125	804.2125
	General Use	Voice 25 kHz	873-876	774.4625	804.4625
Henderson	General Use	Voice 25 kHz	369-372	771.3125	801.3125
	General Use	Voice 25 kHz	449-452	771.8125	801.8125
	General Use	Voice 25 kHz	541-544	772.3875	802.3875
	General Use	Voice 25 kHz	589-592	772.6875	802.6875
	General Use	Voice 25 kHz	633-636	772.9625	802.9625
	General Use	Voice 25 kHz	753-756	773.7125	803.7125
Hertford	General Use	Voice 25 kHz	213-216	770.3375	800.3375
	General Use	Voice 25 kHz	285-288	770.7875	800.7875
	General Use	Voice 25 kHz	357-360	771.2375	801.2375
	General Use	Voice 25 kHz	425-428	771.6625	801.6625
	General Use	Voice 25 kHz	493-496	772.0875	802.0875
	General Use	Voice 25 kHz	537-540	772.3625	802.3625
	General Use	Voice 25 kHz	677-680	773.2375	803.2375
	General Use	Voice 25 kHz	917-920	774.7375	804.7375
Hoke	General Use	Voice 25 kHz	17-20	769.1125	799.1125
	General Use	Voice 25 kHz	357-360	771.2375	801.2375
	General Use	Voice 25 kHz	465-468	771.9125	801.9125
	General Use	Voice 25 kHz	549-552	772.4375	802.4375
	General Use	Voice 25 kHz	625-628	772.9125	802.9125
	General Use	Voice 25 kHz	781-784	773.8875	803.8875
	General Use	Voice 25 kHz	873-876	774.4625	804.4625

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Hyde	General Use	Voice 25 kHz	161-164	770.0125	800.0125
	General Use	Voice 25 kHz	397-400	771.4875	801.4875
	General Use	Voice 25 kHz	441-444	771.7625	801.7625
	General Use	Voice 25 kHz	481-484	772.0125	802.0125
	General Use	Voice 25 kHz	521-524	772.2625	802.2625
	General Use	Voice 25 kHz	597-600	772.7375	802.7375
	General Use	Voice 25 kHz	709-712	773.4375	803.4375
	General Use	Voice 25 kHz	901-904	774.6375	804.6375
Iredell	General Use	Voice 25 kHz	325-328	771.0375	801.0375
	General Use	Voice 25 kHz	409-412	771.5625	801.5625
	General Use	Voice 25 kHz	489-492	772.0625	802.0625
	General Use	Voice 25 kHz	553-556	772.4625	802.4625
	General Use	Voice 25 kHz	621-624	772.8875	802.8875
	General Use	Voice 25 kHz	661-664	773.1375	803.1375
	General Use	Voice 25 kHz	701-704	773.3875	803.3875
	General Use	Voice 25 kHz	753-756	773.7125	803.7125
	General Use	Voice 25 kHz	821-824	774.1375	804.1375
Jackson	General Use	Voice 25 kHz	97-100	769.6125	799.6125
	General Use	Voice 25 kHz	417-420	771.6125	801.6125
	General Use	Voice 25 kHz	465-468	771.9125	801.9125
	General Use	Voice 25 kHz	561-564	772.5125	802.5125
	General Use	Voice 25 kHz	677-680	773.2375	803.2375
	General Use	Voice 25 kHz	757-760	773.7375	803.7375
Johnston	General Use	Voice 25 kHz	129-132	769.8125	799.8125
	General Use	Voice 25 kHz	169-172	770.0625	800.0625
	General Use	Voice 25 kHz	297-300	770.8625	800.8625
	General Use	Voice 25 kHz	353-356	771.2125	801.2125
	General Use	Voice 25 kHz	401-404	771.5125	801.5125
	General Use	Voice 25 kHz	457-460	771.8625	801.8625
	General Use	Voice 25 kHz	513-516	772.2125	802.2125
	General Use	Voice 25 kHz	557-560	772.4875	802.4875
	General Use	Voice 25 kHz	597-600	772.7375	802.4375
	General Use	Voice 25 kHz	877-880	774.4875	804.4875
Jones	General Use	Voice 25 kHz	393-396	771.4625	801.4625
	General Use	Voice 25 kHz	441-444	771.7625	801.7625
	General Use	Voice 25 kHz	553-556	772.4625	802.4625
	General Use	Voice 25 kHz	621-624	772.8875	802.8875
	General Use	Voice 25 kHz	785-788	773.9125	803.9125

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Lee	General Use	Voice 25 kHz	345-348	771.1625	801.1625
	General Use	Voice 25 kHz	453-456	771.8375	801.8375
	General Use	Voice 25 kHz	505-508	772.1625	802.1625
	General Use	Voice 25 kHz	545-548	772.4125	802.4125
	General Use	Voice 25 kHz	637-640	772.9875	802.9875
	General Use	Voice 25 kHz	717-720	773.4875	803.4875
Lenoir	General Use	Voice 25 kHz	133-136	769.8375	799.8375
	General Use	Voice 25 kHz	349-352	771.1875	801.1875
	General Use	Voice 25 kHz	405-408	771.5375	801.5375
	General Use	Voice 25 kHz	453-456	771.8375	801.8375
	General Use	Voice 25 kHz	493-496	772.0875	802.0875
	General Use	Voice 25 kHz	537-540	772.3625	802.3625
	General Use	Voice 25 kHz	593-596	772.7125	802.7125
	General Use	Voice 25 kHz	945-948	774.9125	804.9125
Lincoln	General Use	Voice 25 kHz	85-88	769.5375	799.5375
	General Use	Voice 25 kHz	381-384	771.3875	801.3875
	General Use	Voice 25 kHz	537-540	772.3625	802.3625
	General Use	Voice 25 kHz	577-580	772.6125	802.6125
	General Use	Voice 25 kHz	829-832	774.1875	804.1875
	General Use	Voice 25 kHz	873-876	774.4625	804.4625
Macon	General Use	Voice 25 kHz	41-44	769.2625	799.2625
	General Use	Voice 25 kHz	133-136	769.8375	799.8375
	General Use	Voice 25 kHz	241-244	770.5125	800.5125
	General Use	Voice 25 kHz	325-328	771.0375	801.0375
	General Use	Voice 25 kHz	377-380	771.3625	801.3625
	General Use	Voice 25 kHz	481-484	772.0125	802.0125
Madison	General Use	Voice 25 kHz	41-44	769.2625	799.2625
	General Use	Voice 25 kHz	165-168	770.0375	800.0375
	General Use	Voice 25 kHz	401-404	771.5125	801.5125
	General Use	Voice 25 kHz	525-528	772.2875	802.2875
	General Use	Voice 25 kHz	749-752	773.6875	803.6875

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Martin	General Use	Voice 25 kHz	253-256	770.5875	800.5875
	General Use	Voice 25 kHz	361-364	771.2625	801.2625
	General Use	Voice 25 kHz	421-424	771.6375	801.6375
	General Use	Voice 25 kHz	517-520	772.2375	802.2375
	General Use	Voice 25 kHz	617-620	772.8625	802.8625
	General Use	Voice 25 kHz	673-676	773.2125	803.2125
	General Use	Voice 25 kHz	713-716	773.4625	803.4625
	General Use	Voice 25 kHz	753-756	773.7125	803.7125
McDowell	General Use	Voice 25 kHz	53-56	769.3375	799.3375
	General Use	Voice 25 kHz	93-96	769.5875	799.5875
	General Use	Voice 25 kHz	397-400	771.4875	801.4875
	General Use	Voice 25 kHz	441-444	771.7625	801.7625
	General Use	Voice 25 kHz	669-672	773.1875	803.1875
	General Use	Voice 25 kHz	861-864	774.3875	804.3875
Mecklenburg	General Use	Voice 25 kHz	13-16	769.0875	799.0875
	General Use	Voice 25 kHz	53-56	769.3375	799.3375
	General Use	Voice 25 kHz	121-124	769.7625	799.7625
	General Use	Voice 25 kHz	161-164	770.0125	800.0125
	General Use	Voice 25 kHz	201-204	770.2625	800.2625
	General Use	Voice 25 kHz	245-248	770.5375	800.5375
	General Use	Voice 25 kHz	285-288	770.7875	800.7875
	General Use	Voice 25 kHz	357-360	771.2375	801.2375
	General Use	Voice 25 kHz	425-428	771.6625	801.6625
	General Use	Voice 25 kHz	473-476	771.9625	801.9625
	General Use	Voice 25 kHz	525-528	772.2875	802.2875
	General Use	Voice 25 kHz	569-572	772.5625	802.5625
	General Use	Voice 25 kHz	613-616	772.8375	802.8375
	General Use	Voice 25 kHz	677-680	773.2375	803.2375
	General Use	Voice 25 kHz	741-744	773.6375	803.6375
	General Use	Voice 25 kHz	781-784	773.8875	803.8875
	General Use	Voice 25 kHz	861-864	774.3875	804.3875
	General Use	Voice 25 kHz	905-908	774.6625	804.6625
	General Use	Voice 25 kHz	945-948	774.9125	804.9125
Mitchell	General Use	Voice 25 kHz	341-344	771.1375	801.1375
	General Use	Voice 25 kHz	501-504	772.1375	802.1375
	General Use	Voice 25 kHz	597-600	772.7375	802.7375
	General Use	Voice 25 kHz	825-828	774.1625	804.1625
	General Use	Voice 25 kHz	901-904	774.6375	805.6375

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Montgomery	General Use	Voice 25 kHz	57-60	769.3625	799.3625
	General Use	Voice 25 kHz	365-368	771.2875	801.2875
	General Use	Voice 25 kHz	461-464	771.8875	801.8875
	General Use	Voice 25 kHz	529-532	772.3125	802.3125
	General Use	Voice 25 kHz	577-580	772.6125	802.6125
Moore	General Use	Voice 25 kHz	41-44	769.2625	799.2625
	General Use	Voice 25 kHz	125-128	769.7875	799.7875
	General Use	Voice 25 kHz	381-384	771.3875	801.3875
	General Use	Voice 25 kHz	421-424	771.6375	801.6375
	General Use	Voice 25 kHz	517-520	772.2375	802.2375
	General Use	Voice 25 kHz	617-620	772.8625	802.8625
	General Use	Voice 25 kHz	665-668	773.1625	803.1625
	General Use	Voice 25 kHz	829-832	774.1875	804.1875
Nash	General Use	Voice 25 kHz	45-48	769.2875	799.2875
	General Use	Voice 25 kHz	241-244	770.5125	800.5125
	General Use	Voice 25 kHz	345-348	771.1625	801.1625
	General Use	Voice 25 kHz	389-392	771.4375	801.4375
	General Use	Voice 25 kHz	449-452	771.8125	801.8125
	General Use	Voice 25 kHz	497-500	772.1125	802.1125
	General Use	Voice 25 kHz	589-592	772.6875	802.6875
	General Use	Voice 25 kHz	629-632	772.9375	802.9375
	General Use	Voice 25 kHz	757-760	773.7375	803.7375
	General Use	Voice 25 kHz	837-840	774.2375	804.2375
New Hanover	General Use	Voice 25 kHz	41-44	769.2625	799.2625
	General Use	Voice 25 kHz	81-84	769.5125	799.5125
	General Use	Voice 25 kHz	165-168	770.0375	800.0375
	General Use	Voice 25 kHz	213-216	770.3375	800.3375
	General Use	Voice 25 kHz	257-260	770.6125	800.6125
	General Use	Voice 25 kHz	321-324	771.0125	801.0125
	General Use	Voice 25 kHz	377-380	771.3625	801.3625
	General Use	Voice 25 kHz	437-440	771.7375	801.7375
	General Use	Voice 25 kHz	481-484	772.0125	802.0125
	General Use	Voice 25 kHz	521-524	772.2625	802.2625
	General Use	Voice 25 kHz	561-564	772.5125	802.5125
	General Use	Voice 25 kHz	609-612	772.8125	802.8125
	General Use	Voice 25 kHz	677-680	773.2375	803.2375
	General Use	Voice 25 kHz	749-752	773.6875	803.6875
	General Use	Voice 25 kHz	789-792	773.9375	803.9375

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
N. Hvr. Cont	General Use	Voice 25 kHz	833-836	774.2125	804.2125
	General Use	Voice 25 kHz	905-908	774.6625	804.6625
	General Use	Voice 25 kHz	945-948	774.9125	804.9125
Northhampton	General Use	Voice 25 kHz	53-56	769.3375	799.3375
	General Use	Voice 25 kHz	93-96	769.5875	799.5875
	General Use	Voice 25 kHz	245-248	770.5375	800.5375
	General Use	Voice 25 kHz	417-420	771.6125	801.6125
	General Use	Voice 25 kHz	477-480	771.9875	801.9875
	General Use	Voice 25 kHz	621-624	772.8875	802.8875
	General Use	Voice 25 kHz	829-832	774.1875	804.1875
	General Use	Voice 25 kHz	877-880	774.4875	804.4875
Onslow	General Use	Voice 25 kHz	53-56	769.3375	799.3375
	General Use	Voice 25 kHz	161-164	770.0125	800.0125
	General Use	Voice 25 kHz	201-204	770.2625	800.2625
	General Use	Voice 25 kHz	241-244	770.5125	800.5125
	General Use	Voice 25 kHz	285-288	770.7875	800.7875
	General Use	Voice 25 kHz	333-336	771.0875	801.0875
	General Use	Voice 25 kHz	381-384	771.3875	801.3875
	General Use	Voice 25 kHz	433-436	771.7125	801.7125
	General Use	Voice 25 kHz	477-480	771.9875	801.9875
	General Use	Voice 25 kHz	517-520	772.2375	802.2375
	General Use	Voice 25 kHz	565-568	772.5375	802.5375
	General Use	Voice 25 kHz	613-616	772.8375	802.8375
	General Use	Voice 25 kHz	673-676	773.2125	803.2125
	General Use	Voice 25 kHz	713-716	773.4625	803.4625
	General Use	Voice 25 kHz	757-760	773.7375	803.7375
	General Use	Voice 25 kHz	825-828	774.1625	804.1625
	General Use	Voice 25 kHz	865-868	774.4125	804.4125
Orange	General Use	Voice 25 kHz	45-48	769.2875	799.2875
	General Use	Voice 25 kHz	93-96	769.5875	799.5875
	General Use	Voice 25 kHz	133-136	769.8375	799.8375
	General Use	Voice 25 kHz	281-284	770.7625	800.7625
	General Use	Voice 25 kHz	329-332	771.0625	801.0625
	General Use	Voice 25 kHz	397-400	771.4875	801.4875
	General Use	Voice 25 kHz	449-452	771.8125	801.8125
	General Use	Voice 25 kHz	501-504	772.1375	802.1375
	General Use	Voice 25 kHz	561-564	772.5125	802.5125
	General Use	Voice 25 kHz	633-636	772.9625	802.9625

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Pamlico	General Use	Voice 25 kHz	137-140	769.8625	799.8625
	General Use	Voice 25 kHz	281-284	770.7625	800.7625
	General Use	Voice 25 kHz	385-388	771.4125	801.4125
	General Use	Voice 25 kHz	425-428	771.6625	801.6625
	General Use	Voice 25 kHz	473-476	771.9625	801.9625
	General Use	Voice 25 kHz	549-552	772.4375	802.4375
	General Use	Voice 25 kHz	589-592	772.6875	802.6875
	General Use	Voice 25 kHz	629-632	772.9375	802.9375
	General Use	Voice 25 kHz	829-832	774.1875	804.1875
	General Use	Voice 25 kHz	869-872	774.4375	804.4375
Pasquotank	General Use	Voice 25 kHz	17-20	769.1125	799.1125
	General Use	Voice 25 kHz	89-92	769.5625	799.5625
	General Use	Voice 25 kHz	281-284	770.7625	800.7625
	General Use	Voice 25 kHz	353-356	771.2125	801.2125
	General Use	Voice 25 kHz	401-404	771.5125	801.5125
	General Use	Voice 25 kHz	461-464	771.8875	801.8875
	General Use	Voice 25 kHz	549-552	772.4375	802.4375
	General Use	Voice 25 kHz	633-636	772.9625	802.9625
	General Use	Voice 25 kHz	873-876	774.4625	804.4625
	General Use	Voice 25 kHz	913-916	774.7125	804.7125
Pender	General Use	Voice 25 kHz	89-92	769.5625	799.5625
	General Use	Voice 25 kHz	177-180	770.1125	800.1125
	General Use	Voice 25 kHz	357-360	771.2375	801.2375
	General Use	Voice 25 kHz	445-448	771.7875	801.7875
	General Use	Voice 25 kHz	529-532	772.3125	802.3125
	General Use	Voice 25 kHz	629-632	772.9375	802.9375
	General Use	Voice 25 kHz	701-704	773.3875	803.3875
	General Use	Voice 25 kHz	741-744	773.6375	803.6375
Perquimans	General Use	Voice 25 kHz	41-44	769.2625	799.2625
	General Use	Voice 25 kHz	257-260	770.6125	800.6125
	General Use	Voice 25 kHz	389-392	771.4375	801.4375
	General Use	Voice 25 kHz	513-516	772.2125	802.2125
	General Use	Voice 25 kHz	589-592	772.6875	802.6875
	General Use	Voice 25 kHz	789-792	773.9375	803.9375
	General Use	Voice 25 kHz	905-908	774.6625	804.6625

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Person	General Use	Voice 25 kHz	57-60	769.3625	799.3625
	General Use	Voice 25 kHz	125-128	769.7875	799.7875
	General Use	Voice 25 kHz	369-372	771.3125	801.3125
	General Use	Voice 25 kHz	509-512	772.1875	802.1875
	General Use	Voice 25 kHz	753-756	773.7125	803.7125
	General Use	Voice 25 kHz	901-904	774.6375	804.6375
Pitt	General Use	Voice 25 kHz	41-44	769.2625	799.2625
	General Use	Voice 25 kHz	81-84	769.5125	799.5125
	General Use	Voice 25 kHz	125-128	769.7875	799.7875
	General Use	Voice 25 kHz	173-176	770.0875	800.0875
	General Use	Voice 25 kHz	289-292	770.8125	800.8125
	General Use	Voice 25 kHz	429-432	771.6875	801.6875
	General Use	Voice 25 kHz	469-472	771.9375	801.9375
	General Use	Voice 25 kHz	509-512	772.1875	802.1875
	General Use	Voice 25 kHz	569-572	772.5625	802.5625
	General Use	Voice 25 kHz	665-668	773.1625	803.1625
	General Use	Voice 25 kHz	789-792	773.9375	803.9375
	General Use	Voice 25 kHz	833-836	774.2125	804.2125
	General Use	Voice 25 kHz	873-876	774.4625	804.4625
	General Use	Voice 25 kHz	913-916	774.7125	804.7125
Polk	General Use	Voice 25 kHz	461-464	771.8875	801.8875
	General Use	Voice 25 kHz	533-536	772.3375	802.3375
	General Use	Voice 25 kHz	613-616	772.8375	802.8375
	General Use	Voice 25 kHz	793-796	773.9625	803.9625
	General Use	Voice 25 kHz	865-868	774.4125	804.4125
Randolph	General Use	Voice 25 kHz	97-100	769.6125	799.6125
	General Use	Voice 25 kHz	169-172	770.0625	800.0625
	General Use	Voice 25 kHz	217-220	770.3625	800.3625
	General Use	Voice 25 kHz	289-292	770.8125	800.8125
	General Use	Voice 25 kHz	337-340	771.1125	801.1125
	General Use	Voice 25 kHz	437-440	771.7375	801.7375
	General Use	Voice 25 kHz	537-540	772.3625	802.3625
	General Use	Voice 25 kHz	601-604	772.7625	802.7625
	General Use	Voice 25 kHz	789-792	773.9375	803.9375
	General Use	Voice 25 kHz	909-912	774.6875	804.6875

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Richmond	General Use	Voice 25 kHz	205-208	770.2875	800.2875
	General Use	Voice 25 kHz	341-344	771.1375	801.1375
	General Use	Voice 25 kHz	389-392	771.4375	801.4375
	General Use	Voice 25 kHz	445-448	771.7875	801.7875
	General Use	Voice 25 kHz	493-496	772.0875	802.0875
	General Use	Voice 25 kHz	605-608	772.7875	802.7875
	General Use	Voice 25 kHz	753-756	773.7125	803.7125
	General Use	Voice 25 kHz	821-824	774.1375	804.1375
	General Use	Voice 25 kHz	917-920	774.7375	804.7375
Robeson	General Use	Voice 25 kHz	81-84	769.5125	799.5125
	General Use	Voice 25 kHz	161-164	770.0125	800.0125
	General Use	Voice 25 kHz	213-216	770.3375	800.3375
	General Use	Voice 25 kHz	377-380	771.3625	801.3625
	General Use	Voice 25 kHz	437-440	771.7375	801.7375
	General Use	Voice 25 kHz	521-524	772.2625	702.2625
	General Use	Voice 25 kHz	561-564	772.5125	802.5125
	General Use	Voice 25 kHz	613-616	772.8375	802.8375
	General Use	Voice 25 kHz	661-664	773.1375	803.1375
	General Use	Voice 25 kHz	705-708	773.4125	803.4125
	General Use	Voice 25 kHz	745-748	773.6625	803.6625
	General Use	Voice 25 kHz	825-828	774.1625	804.1625
	General Use	Voice 25 kHz	865-868	774.4125	804.4125
	General Use	Voice 25 kHz	913-916	774.7125	804.7125
Rockingham	General Use	Voice 25 kHz	41-44	769.2625	799.2625
	General Use	Voice 25 kHz	161-164	770.0125	800.0125
	General Use	Voice 25 kHz	325-328	771.0375	801.0375
	General Use	Voice 25 kHz	365-368	771.2875	801.2875
	General Use	Voice 25 kHz	445-448	771.7875	801.7875
	General Use	Voice 25 kHz	533-536	772.3375	802.3375
	General Use	Voice 25 kHz	597-600	772.7375	802.7375
	General Use	Voice 25 kHz	637-640	772.9875	802.9875
	General Use	Voice 25 kHz	717-720	773.4875	803.4875
	General Use	Voice 25 kHz	905-908	774.6625	804.6625

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Rowan	General Use	Voice 25 kHz	45-48	769.2875	799.2875
	General Use	Voice 25 kHz	385-388	771.4125	801.4125
	General Use	Voice 25 kHz	449-452	771.8125	801.8125
	General Use	Voice 25 kHz	509-512	772.1875	802.1875
	General Use	Voice 25 kHz	589-592	772.6875	802.6875
	General Use	Voice 25 kHz	637-640	772.9875	802.9875
	General Use	Voice 25 kHz	717-720	773.4875	803.4875
	General Use	Voice 25 kHz	869-872	774.4375	804.4375
Rutherford	General Use	Voice 25 kHz	81-84	769.5125	799.5125
	General Use	Voice 25 kHz	241-244	770.5125	800.5125
	General Use	Voice 25 kHz	413-416	771.5875	801.5875
	General Use	Voice 25 kHz	573-576	772.5875	802.5875
	General Use	Voice 25 kHz	745-748	773.6625	803.6625
Sampson	General Use	Voice 25 kHz	57-60	769.3625	799.3625
	General Use	Voice 25 kHz	217-220	770.3625	800.3625
	General Use	Voice 25 kHz	341-344	771.1375	801.1375
	General Use	Voice 25 kHz	385-388	771.4125	801.4125
	General Use	Voice 25 kHz	425-428	771.6625	801.6625
	General Use	Voice 25 kHz	489-492	772.0625	802.0625
	General Use	Voice 25 kHz	581-584	772.6375	802.6375
	General Use	Voice 25 kHz	821-824	774.1375	804.1375
	General Use	Voice 25 kHz	869-872	774.4375	804.4375
Scotland	General Use	Voice 25 kHz	173-176	770.0875	800.0875
	General Use	Voice 25 kHz	245-248	770.5375	800.5375
	General Use	Voice 25 kHz	297-300	770.8625	800.8625
	General Use	Voice 25 kHz	401-404	771.5125	801.5125
	General Use	Voice 25 kHz	473-476	771.9625	801.9625
	General Use	Voice 25 kHz	585-588	772.6625	802.6625
	General Use	Voice 25 kHz	793-796	773.9625	803.9625
	General Use	Voice 25 kHz	905-908	774.6625	804.6625
Stanly	General Use	Voice 25 kHz	321-324	771.0125	801.0125
	General Use	Voice 25 kHz	377-380	771.3625	801.3625
	General Use	Voice 25 kHz	501-504	772.1375	802.1375
	General Use	Voice 25 kHz	561-564	772.5125	802.5125
	General Use	Voice 25 kHz	625-628	772.9125	802.9125

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Stokes	General Use	Voice 25 kHz	57-60	769.3625	799.3625
	General Use	Voice 25 kHz	405-408	771.5375	801.5375
	General Use	Voice 25 kHz	525-528	772.2875	802.2875
	General Use	Voice 25 kHz	677-680	773.2375	803.2375
	General Use	Voice 25 kHz	945-948	774.9125	804.9125
Surry	General Use	Voice 25 kHz	85-88	769.5375	799.5375
	General Use	Voice 25 kHz	381-384	771.3875	801.3875
	General Use	Voice 25 kHz	421-424	771.6375	801.6375
	General Use	Voice 25 kHz	573-576	772.5875	802.5875
	General Use	Voice 25 kHz	873-876	774.4625	804.4625
Swain	General Use	Voice 25 kHz	17-20	769.1125	799.1125
	General Use	Voice 25 kHz	281-284	770.7625	800.7625
	General Use	Voice 25 kHz	361-364	771.2625	801.2625
	General Use	Voice 25 kHz	521-524	772.2625	802.2625
	General Use	Voice 25 kHz	593-596	772.7125	802.7125
Transylvania	General Use	Voice 25 kHz	89-92	769.5625	799.5625
	General Use	Voice 25 kHz	209-212	770.3125	800.3125
	General Use	Voice 25 kHz	345-348	771.1625	801.1625
	General Use	Voice 25 kHz	549-552	772.4375	802.4375
	General Use	Voice 25 kHz	621-624	772.8875	802.8875
Tyrrell	General Use	Voice 25 kHz	45-48	769.2875	799.2875
	General Use	Voice 25 kHz	121-124	769.7625	799.7625
	General Use	Voice 25 kHz	217-220	770.3625	800.3625
	General Use	Voice 25 kHz	345-348	771.1625	801.1625
	General Use	Voice 25 kHz	433-436	771.7125	801.7125
	General Use	Voice 25 kHz	497-500	772.1125	802.1125
	General Use	Voice 25 kHz	565-568	772.5375	802.5375
	General Use	Voice 25 kHz	605-608	772.7875	802.7875
	General Use	Voice 25 kHz	669-672	773.1875	803.1875
	General Use	Voice 25 kHz	877-880	774.4875	804.4875

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Union	General Use	Voice 25 kHz	93-96	769.5875	799.5875
	General Use	Voice 25 kHz	177-180	770.1125	800.1125
	General Use	Voice 25 kHz	253-256	770.5875	800.5875
	General Use	Voice 25 kHz	293-296	770.8375	800.8375
	General Use	Voice 25 kHz	349-352	771.1875	801.1875
	General Use	Voice 25 kHz	453-456	771.8375	801.8375
	General Use	Voice 25 kHz	541-544	772.3875	802.3875
	General Use	Voice 25 kHz	581-584	772.6375	802.6375
	General Use	Voice 25 kHz	633-636	772.9625	802.9625
	General Use	Voice 25 kHz	877-880	774.4875	804.4875
Vance	General Use	Voice 25 kHz	89-92	769.5625	799.5625
	General Use	Voice 25 kHz	381-384	771.3875	801.3875
	General Use	Voice 25 kHz	421-424	771.6375	801.6375
	General Use	Voice 25 kHz	473-476	771.9625	801.9625
	General Use	Voice 25 kHz	525-528	772.2875	802.2875
	General Use	Voice 25 kHz	573-576	772.5875	802.5875
	General Use	Voice 25 kHz	617-620	772.8625	802.8625
	General Use	Voice 25 kHz	709-712	773.4375	803.4375
	General Use	Voice 25 kHz	789-792	773.9375	803.9375
	General Use	Voice 25 kHz	917-920	774.7375	804.7375
Wake	General Use	Voice 25 kHz	13-16	769.0875	799.0875
	General Use	Voice 25 kHz	53-56	769.3375	799.3375
	General Use	Voice 25 kHz	121-124	769.7625	799.7625
	General Use	Voice 25 kHz	161-164	770.0125	800.0125
	General Use	Voice 25 kHz	213-216	770.3375	800.3375
	General Use	Voice 25 kHz	253-256	770.5875	800.5875
	General Use	Voice 25 kHz	321-324	771.0125	801.0125
	General Use	Voice 25 kHz	377-380	771.3625	801.3625
	General Use	Voice 25 kHz	417-420	771.6125	801.6125
	General Use	Voice 25 kHz	533-536	772.3375	802.3375
	General Use	Voice 25 kHz	577-580	772.6125	802.6125
	General Use	Voice 25 kHz	621-624	772.8875	802.8875
	General Use	Voice 25 kHz	661-664	773.1375	803.1375
	General Use	Voice 25 kHz	701-704	773.3875	803.3875
	General Use	Voice 25 kHz	741-744	773.6375	803.6375
	General Use	Voice 25 kHz	785-788	773.9125	803.9125
	General Use	Voice 25 kHz	825-828	774.1625	804.1625
	General Use	Voice 25 kHz	865-868	774.4125	804.4125
	General Use	Voice 25 kHz	905-908	774.6625	804.6625
	General Use	Voice 25 kHz	945-948	774.9125	804.9125

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Warren	General Use	Voice 25 kHz	257-260	770.6125	800.6125
	General Use	Voice 25 kHz	337-340	771.1125	801.1125
	General Use	Voice 25 kHz	461-464	771.8875	801.8875
	General Use	Voice 25 kHz	545-548	772.4125	802.4125
	General Use	Voice 25 kHz	609-612	772.8125	802.8125
	General Use	Voice 25 kHz	781-784	773.8875	803.8875
	General Use	Voice 25 kHz	821-824	774.1375	804.1375
Washington	General Use	Voice 25 kHz	133-136	769.8375	799.8375
	General Use	Voice 25 kHz	177-180	770.1125	800.1125
	General Use	Voice 25 kHz	241-244	770.5125	800.5125
	General Use	Voice 25 kHz	329-332	771.0625	801.0625
	General Use	Voice 25 kHz	405-408	771.5375	801.5375
	General Use	Voice 25 kHz	533-536	772.3375	802.3375
	General Use	Voice 25 kHz	573-576	772.5875	802.5875
	General Use	Voice 25 kHz	661-664	773.1375	803.1375
	General Use	Voice 25 kHz	701-704	773.3875	803.3875
	General Use	Voice 25 kHz	945-948	774.9125	804.9125
Watauga	General Use	Voice 25 kHz	89-92	769.5625	799.5625
	General Use	Voice 25 kHz	337-340	771.1125	801.1125
	General Use	Voice 25 kHz	493-496	772.0875	802.0875
	General Use	Voice 25 kHz	545-548	772.4125	802.4125
	General Use	Voice 25 kHz	609-612	772.8125	802.8125
Wayne	General Use	Voice 25 kHz	245-248	770.5375	800.5375
	General Use	Voice 25 kHz	329-332	771.0625	801.0625
	General Use	Voice 25 kHz	373-376	771.3375	801.3375
	General Use	Voice 25 kHz	413-416	771.5875	801.5875
	General Use	Voice 25 kHz	473-476	771.9625	801.9625
	General Use	Voice 25 kHz	521-524	772.2625	802.2625
	General Use	Voice 25 kHz	573-576	772.5875	802.5875
	General Use	Voice 25 kHz	625-628	772.9125	802.9125
	General Use	Voice 25 kHz	669-672	773.1875	803.1875
	General Use	Voice 25 kHz	709-712	773.4375	803.4375
	General Use	Voice 25 kHz	781-784	773.8875	803.8875
	General Use	Voice 25 kHz	861-864	774.3875	804.3875
	General Use	Voice 25 kHz	909-912	774.6875	804.6875

Appendix H Continued

County	Class	Bandwidth	Channel	Base Frequency	Mobile Frequency
Wilkes	General Use	Voice 25 kHz	49-52	769.3125	799.3125
	General Use	Voice 25 kHz	165-168	770.0375	800.0375
	General Use	Voice 25 kHz	361-364	771.2625	801.2625
	General Use	Voice 25 kHz	401-404	771.5125	801.5125
	General Use	Voice 25 kHz	469-472	771.9375	801.9375
Wilson	General Use	Voice 25 kHz	137-140	769.8625	799.8625
	General Use	Voice 25 kHz	205-208	770.2875	800.2875
	General Use	Voice 25 kHz	437-440	771.7375	801.7375
	General Use	Voice 25 kHz	549-552	772.4375	802.4375
	General Use	Voice 25 kHz	613-616	772.8375	802.8375
	General Use	Voice 25 kHz	677-680	773.2375	803.2375
	General Use	Voice 25 kHz	717-720	773.4875	803.4875
	General Use	Voice 25 kHz	797-800	773.9875	803.9875
Yadkin	General Use	Voice 25 kHz	205-208	770.2875	800.2875
	General Use	Voice 25 kHz	389-392	771.4375	801.4375
	General Use	Voice 25 kHz	433-436	771.7125	801.7125
	General Use	Voice 25 kHz	477-480	771.9875	801.9875
	General Use	Voice 25 kHz	633-636	772.9625	802.9625
Yancey	General Use	Voice 25 kHz	285-288	770.7875	800.7875
	General Use	Voice 25 kHz	349-352	771.1875	801.1875
	General Use	Voice 25 kHz	421-424	771.6375	801.6375
	General Use	Voice 25 kHz	473-476	771.9625	801.9625
	General Use	Voice 25 kHz	941-944	774.8875	804.8875

Appendix I

LPTV Notifications

LPTV NOTIFICATION EXAMPLE

Trinity Broadcasting Network
PO Box C-11949
Santa Ana, CA 92711

Re: Call Sign W63CW

Dear Trinity Broadcasting Network:

This letter is to notify you of the completion of the 700 MHz Regional Plan for Region 31 (North Carolina). The Plan has been adopted by Region 31 and is at adjacent Regions for concurrence. Under the Federal Communications Commissions rules, your station is secondary to future primary public safety operations in the 700 MHz band. Therefore, Low power TV stations, TV translator stations or TV Auxiliary operations may not cause interference to public safety systems and must accept any interference they might receive from these operations.¹

We expect public safety systems to begin to operate in the 700 MHz band as soon as Region 31's Plan is adopted by the FCC; sometime in 2011. We are notifying you so that you can make arrangements to change channels or otherwise modify your facilities before that time, in accordance with authority you obtain from the Federal Communications Commission. Public safety communications involve the safety of life and therefore we cannot tolerate interference.

If you have questions concerning this notification, please contact Michael Hodgson at (m Hodgson@ncshp.org or 919-733-7956).

Sincerely

Michael T. Hodgson
Region 31 Chair
North Carolina Highway Patrol

¹ The FCC Report and Order in ET Docket No. 97-157 (FCC 97-421) for the "Reallocation of Television Channels 60-69, the 746-806 MHz Band," clearly defined Land Mobile operations as a "primary service" and that Low Power TV and TV translator operations are secondary to all primary services in this band (see paragraphs 14 and 25-31). The FCC Report and Order adopted 12/31/1997, can be found under "Digital Television (DTV) Regulatory Information" at <http://www.fcc.gov/dtv/>. In the Balanced Budget Act of 1997, Congress clearly recognized that all secondary broadcast services might be displaced by new primary services (see FCC 97-421 para. 29). Also, per section 74.23 of the FCC rules, secondary Broadcast Radio Services may not cause interference that jeopardizes safety of life or protection of property.

APPENDIX J
Low Power Pool Frequencies
Pursuant to 2nd Report & Order
(Released August 10, 2007/Effective October 23, 2007)

Channel #	Center Frequency (6.25 kHz)	Center Frequency (12.5 kHz)	Center Frequency (25 kHz)	Use	Channel #	Center Frequency (6.25 kHz)	Center Frequency (12.5 kHz)	Center Frequency (25 kHz)
1	769.003125			RPC Admin	961	799.003125		
2	769.009375	769.00625		RPC Admin	962	799.009375	799.00625	
3	769.015625		769.0125	RPC Admin	963	799.015625		799.0125
4	769.021875	769.01875		RPC Admin	964	799.021875	799.01875	
5	769.028125			RPC Admin	965	799.028125		
6	769.034375	769.03125		RPC Admin	966	799.034375	799.03125	
7	769.040625		769.0375	RPC Admin	967	799.040625		799.0375
8	769.046875	769.04375		RPC Admin	968	799.046875	799.04375	
9	769.053125			Itinerant	969	799.053125		
10	769.059375	769.05625		Itinerant	970	799.059375	799.05625	
11	769.065625		769.0625	Itinerant	971	799.065625		799.0625
12	769.071875	769.06875		Itinerant	972	799.071875	799.06875	
949	774.928125			RPC Admin	1909	804.928125		
950	774.934375	774.93125		RPC Admin	1910	804.934375	804.93125	
951	774.940625		774.9375	RPC Admin	1911	804.940625		804.9375
952	774.946875	774.94375		RPC Admin	1912	804.946875	804.94375	
953	774.953125			RPC Admin	1913	804.953125		
954	774.959375	774.95625		RPC Admin	1914	804.959375	804.95625	
955	774.965625		774.9625	RPC Admin	1915	804.965625		804.9625
956	774.971875	774.96875		RPC Admin	1916	804.971875	804.96875	
957	774.978125			RPC Admin	1917	804.978125		
958	774.984375	774.98125		RPC Admin	1918	804.984375	804.98125	
959	774.990625		774.9875	Itinerant	1919	804.990725		804.9875
960	774.996875	774.99375		Itinerant	1920	804.996875	804.99375	