REGION 16 – KANSAS
700 MHz REGIONAL COMMUNICATIONS PLAN

Randy D. Moon, Chairman

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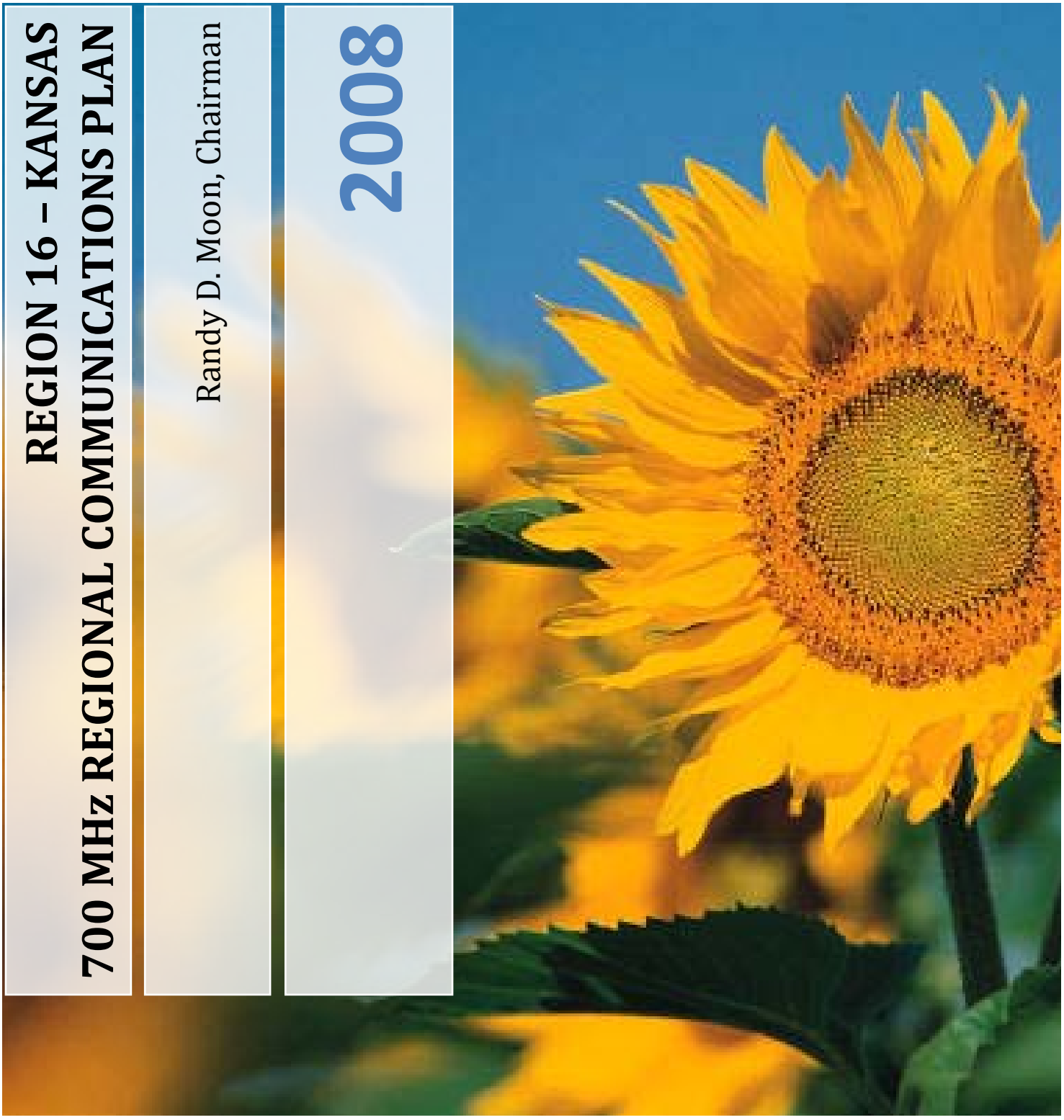

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REGION 16 (KANSAS)
Regional Communications Plan

INTRODUCTION AND SUMMARY

This document consists of the Regional Communications Plan developed for the utilization of 700 MHz frequencies by eligible entities in Region 16 (Kansas). The intent of this plan is the equitable assignment of channels in the 769-775 MHz and 799-805 MHz frequency spectrum to all eligible entities within Region 16 (Kansas), and to establish at the offset the efficient reuse of all 700 MHz frequency spectrum. The plan should be used as a guidebook, to those eligible entities defined by the Public Safety Wireless Advisory Committee (PSWAC) and the National Coordinating Committee (NCC) that apply for channel assignments within the 700MHz spectrum.

Upon receiving approval by the Federal Communication Commission (FCC) of this document, the Region 16 (Kansas) Regional Planning Committee (RPC) will be responsible for conducting annual reviews of system implementations, reviewing and recommending any modifications of the regional plan to the FCC, resolving inter-regional problems that arise, and exercising oversight of the plan.

The authorization document for this Regional Communications Plan is the Federal Communications Commission WT Docket No. 96-86, adopted by the Commission on September 29, 1998. This plan and WT Docket No. 96-86 addresses a wide variety of technical, procedural, and operational consideration for the utilization of the 700 MHz channels by eligible entities. Additionally, WT Docket No. 96-86 legally establishes the authority of the Region 16 (Kansas) Regional Planning Committee to perform the tasks so assigned by this document. Upon acceptance of this document by the FCC, all channels within 769-775 MHz and 799-805 MHz will be available for licensing to eligible entities within Region 16 (Kansas); however, eligible entities within Region 16 (Kansas) requesting usage of any 700 MHz channels may not operate their radio communications equipment until the issuance of a license by the FCC.

In 1993, the U.S. Congress directed the FCC to develop a framework that would ensure that the communications requirements for public safety throughout this country would be met through the year 2010. The Commission set into motion a process that has resulted in the allocation of an additional 12 MHz of bandwidth in the 700 MHz frequency spectrum for utilization by public safety. The newly allocated frequency spectrum is now conditionally available for use by public safety agencies in Region 16 (Kansas), that condition being the acceptance by the FCC of a Regional Communications Plan.

Ms. Liz Phillips with the University of Kansas-Police and a member of the Kansas Chapter of the Association of Police Communications Officials (APCO), was appointed Convener by the Kansas Chapter of APCO to initiate the formation of the Region 16 (Kansas) 700 MHz Regional Planning Committee. Under the direction of Ms. Phillips the initial meeting of the Region 16 (Kansas) Regional Planning Committee for 700 MHz was held in Pittsburg, KS on October 13, 2002.

Ms. Phillips explained to those attending this initial meeting, the purpose for forming the Regional Planning Committee (RPC) and the need for a Regional Communications Plan. During this meeting it was decided by those attending that the election of officers should take place at the next meeting of the Region 16 (Kansas) RPC.

The second meeting of the Region 16 (Kansas) RPC was then held at the Kansas Highway Patrol Training Center in Salina, KS on November 7th, 2002 during which time the convener for Region 16 (Kansas), Ms. Liz Phillips once again explained briefly to those attending the meeting, the purpose for forming an RPC and the importance of developing a Regional Communications Plan. At that time the election of officers was held and completed for the Region 16 (Kansas) RPC and the selection of a date, time and location for the third meeting of the Region 16 (Kansas) RPC was agreed upon.

On Thursday, January 23rd, 2003 at the Kansas Highway Patrol Training Center in Salina, KS the Region 16 (Kansas) RPC held its third meeting and started the process to formulate the Regional Communications Plan that would eventually be submitted to the FCC for approval.

SECTION 1: REGIONAL CHAIRPERSON

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SECTION 2: RPC MEMBERSHIP

The committee membership for Region 16 (Kansas) consists of members from both the public safety and the public service environment. Members include representatives from local government, state government, law enforcement and emergency medical services. A complete listing of participating Regional Planning Committee members for Region 16 (Kansas) is located in Appendix A.

SECTION 3: DESCRIPTION OF THE REGION

3.1 General Description

Region 16 encompasses the entire State of Kansas. Within the boundaries of Kansas there are approximately 82,282 square miles that are divided into 105 counties bordered by four states. These bordering states include:

Region 07: Colorado
Region 25: Missouri
Region 26: Nebraska
Region 34: Oklahoma

In addition, Region 52: Texas-Lubbock is located south of the Oklahoma panhandle in close proximity to Region 16 (Kansas).

Although, the State of Kansas contains no mountains it does consist of large rolling hills known as the Flint Hills that run north by northwest from the southeastern corner of the state north toward Nebraska. In addition to this area there is approximately one-third of the northern portion of Kansas that is considered somewhat hilly with respect to the southern part of the state. Moving across the southern part of the state westward from Wichita the terrain is considered flat with only low hills all the way to the border with Colorado. A wide variation exists in altitude throughout the State of Kansas with portions of southeastern Kansas having an AMSL of 800 feet compared to several areas near the Kansas/Colorado border that have a AMSL of nearly 4000 feet.

The State of Kansas (Region 16) has a population of almost 2.7 million people with the largest majority of residents living in the eastern portion of the state. The eastern counties of Wyandotte, Douglas, Johnson, Leavenworth and Shawnee consist of approximately 35.2 % of the states population. In central and south central Kansas the counties of Butler, Ellis, Harvey, Saline and Sedgwick account for another large portion of Kansas residents with almost 25.7 % of the states population. Additionally, in southwestern Kansas the counties of Finney and Ford account for 2.7 % of the states population.

There is a complete alphabetical listing of all counties and major metropolitan areas within the State of Kansas listed in Appendix B. Refer to the map in Appendix C for the location of all counties in Region 16 (Kansas). Population data for each county in Region 16 (Kansas) can be found in Appendix D.

3.2 Existing Interoperability and Mutual Aid Agreements

At the present time only a few compacts or interoperability agreements are being used by the various public safety entities throughout Region 16 (Kansas). Currently, the Kansas Department of Transportation utilizes shared user agreements with various public safety

entities across the State of Kansas to provide access to the statewide 800 MHz radio infrastructure. In addition, the Kansas Highway Patrol has implemented across the State of Kansas a number of user agreements with various public safety agencies for use of its operational channel during emergency situations. For a listing of agencies that currently possess user agreements with the Kansas Highway Patrol refer to Appendix E.

The Kansas Highway Patrol has also donated hand held 800 MHz portable radios to any interested law enforcement agency within the State if Kansas to aid in facilitating interoperability communications during emergency situations. Refer to Appendix F for a complete listing of participating agencies.

3.3 Interoperability Channel Effect on Existing Plans

The RPC anticipates the addition of the 700 MHz channels and interoperability requirements should have minimal affect on the majority of existing systems being used throughout Region 16 (Kansas). The 700 MHz channels that are being allocated in Region 16 (Kansas) should affect mainly the larger metro areas where current allocation of 800 MHz channels is utilized and any enhancements to radio systems will require access to new spectrum. The 700 MHz Interoperability channels that are becoming available to public safety users in Region 16 (Kansas) will provide additional capabilities that can supplement existing mutual aid and interoperability compacts. Access to this spectrum ultimately provides interoperability solutions to public safety users that may not currently be available.

3.4 Public Safety Entities with Jurisdiction within Region 16

The public safety agencies that have jurisdiction within Region 16 (Kansas) include statewide agencies such as the Kansas Bureau of Investigation, Kansas Highway Patrol, and State Fire Marshall's Office. Additionally, various federal law enforcement agencies and military installations are present within the jurisdiction of Region 16 (Kansas). Other entities that provide services within the region include the county public safety agencies, municipal public safety agencies, urban and rural fire departments, and emergency medical services.

3.5 Regional Public Safety Entities

Federal Agencies: Agencies include federal public safety and military. These include: Federal Bureau of Investigation, Drug Enforcement Administration, Bureau of Alcohol, Tobacco, and Firearms, Housing and Urban Development, United States Marshall Service, military reservations and other federal agencies.

State Agencies: Agencies include Kansas Bureau of Investigation, Kansas Highway Patrol, Kansas Department of Corrections, Kansas Department of Emergency Management, and various other agencies.

Tribal Lands: Region 16 (Kansas) currently has established tribal lands with associated political divisions.

County Agencies: Primarily consists of the 105 county law enforcement agencies, rural fire and EMS departments, local emergency management agencies, and other public works and public health entities.

Municipalities: Include local law enforcement, fire, emergency medical services, local civil defense, public works and 911 Public Safety Answering Point's.

SECTION 4: NOTIFICATION PROCESS

4.1 Regional Notification Process

In an effort to encourage broad participation from the different public safety entities throughout the region, the Region 16 (Kansas) Regional Planning Committee utilized a variety of methods to announce scheduled meetings. The RPC initiated the process of notifying entities with the use of Federal Communication Commission Public Notices prior to each meeting. In addition, methods for notification included items such as the user group "KS700MHZ" on a list server at Yahoo! Groups on the World Wide Web, notices sent through the Criminal Justice Information System (CJIS) to all public safety entities within the State of Kansas, email notification to county commissions, and newspaper articles. This allowed for the dissemination of meeting information to law enforcement agencies, public safety agencies and the news media throughout Kansas.

At the beginning of this process, the Regional Planning Committee has utilized Yahoo! Group's list server, on the World Wide Web. The "KS700MHz" users group was established for the explicit purpose of notifying committee members and other interested parties of upcoming meetings and relevant information that pertained to the development of the 700 MHz Region 16 (Kansas) regional plan. As the meetings were held throughout the region, new attendees were encouraged to join the user group in an effort to keep abreast of any developments concerning 700 MHz and the regional plan.

Attached as Appendix G within this document are copies of the notices that were sent and a list of public safety entities that received a copy. Also included as part of Appendix G, are newspaper notifications and the dates they were published, as well as Public Notices issued by the Federal Communication Commission concerning the notification of meetings for Region 16 (Kansas).

4.2 **Comment** Process.

The Region 16 (Kansas) RPC implemented two methods for obtaining comments and suggestions on the utilization of the 700 MHz frequency spectrum in the region, and the

process implemented by the RPC to develop a Regional Communications Plan. One method for obtaining comments included the "KS700MHz" user group at Yahoo! Groups on the World Wide Web. This user group would allow anyone to join and participate in the development of the Regional Communications Plan. The second process that was implemented to obtain comments included the use of the email address ks700mhz@da.state.ks.us. Four committee members that monitored this email address were able to receive comments or questions from interested parties. Comments or questions received by email could then be presented at the next meeting of the RPC for discussion.

The Region Planning Committee determined initially that any comments submitted by concerned parties through either process should be brought to the attention of the full committee for discussion. A period of time would be set-aside at the next regularly scheduled meeting for the RPC to discuss the comments and determine an appropriate response or necessary action.

SECTION 5: REGIONAL PLAN SUMMARY

5.1 Region Guidelines and Procedures

In Region 16 (Kansas) the Regional Planning Committee (RPC) will utilize Robert's Rules of Order when conducting meetings during the development of the regional plan and all subsequent RPC meetings thereafter. Additionally, the adopted Region 16 Bylaws attached as Appendix H within this document will be utilized for the election of officers, committee membership, voting purposes, and the calling of special meetings.

5.2 Applications

Upon notification by the Federal Communications Commission that the Region 16 (Kansas) Regional Plan has been approved, the RPC will make every effort to notify all interested public safety entities and non-governmental organizations (NGO) within the region that applications in the 769-775 MHz and 799-805 MHz frequency spectrum are now being accepted and considered.

Agencies desiring new, additional or modified spectrum allotments shall submit a request to the RPC Chair in writing, indicating their need for spectrum. The requests will be considered, providing that harmful interference is not caused to any existing users. Requests for 700 MHz channels will be considered on a first come first serve basis with all approved applications being forwarded to the FCC frequency coordinator selected by the applicant. The purpose of the application review by the RPC is to ensure it complies with all elements of the Regional Plan and not a review to ensure the application form meets FCC requirements for filing. Region 16 (Kansas) supports the National Coordinating Committee Pre-Assignment Rules and Recommendations attached as

Appendix I of this document and will use these guidelines to determine if submitted applications meet the appropriate standards. It is recommended that applicants familiarize themselves with these recommendations prior to submitting applications for Region 16 (Kansas) 700 MHz public safety spectrum and system implementation.

All requests to the RPC for 700 MHz channels shall include the applicant's, FCC Form 601, a short description of their proposed system, and a justification for the spectrum. Documents indicating agency funding to construct a system using these 700 MHz frequencies must also be made available. The RPC Chairperson, or a majority of the members of the RPC, has the authority to request and require engineering studies from the applicant that indicate no harmful interference will be introduced to any existing co-channel or adjacent channel user prior to application approval. Any agency with co-channel or adjacent channel allotments may also request that field tests of signal levels are taken to verify any interference signal levels. Agencies must be prepared to conduct these field tests if a request is made

An agency may protest an approval channel within 30 calendar days. Protests will only be considered if an agency or the Chair can show harmful interference is likely based on the input submitted by the agency requesting the new allotment or the allotment does not conform to plan criteria. If the parties cannot resolve the issues and so inform the Chair within 14 calendar days, then a full Committee meeting will be scheduled to consider and vote on the protest. Absent a protest, the allotment will be approved by the Chair and submitted to the FCC as a plan amendment.

When applying for new 700 MHz channels, the RPC recommends that 700 MHz applicants' work with their neighboring agencies, to promote and continue the establishment of interoperability within their community, and allow for the equitable distribution of existing spectrum allocations to promote efficient frequency use when applying for 700 MHz spectrum. The Region 16 (Kansas) RPC expects applicants to be cognizant of the fact that moving to the 700 MHz band may create a degree of isolation between themselves and neighboring agencies, and the RPC looks forward to working with these applicants on a case-by-case basis on how to maintain spectrum availability in their area, while continuing to promote interoperable communications.

Region 16 (Kansas) encourages small agencies to partner with other agencies in multi-agency or regional systems to promote spectrum efficiency and to ensure that the capacity needs of each agency are 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.

In the event that more than one application is received at the same time requesting the same channels within an area then the use of the Priority Matrix will be implemented to determine the allocation of the channels. The priority matrix utilized to resolve this allocation of channels will be based on the following criteria:

- Service (Maximum score of 350 points)
  Police, fire, local government, combined systems, multi-jurisdictional systems, etc.)

- Intersystem and Intra-system interoperability (Maximum score 100 points)
  How well the proposed level 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 within their present system.

  The applicant shall stipulate how they will accomplish interoperability in their proposed system (gateway, switch, standards based technology, cross-band repeater, console patch, software defined radios, 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 150 points)
  Is the proposed 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 350 points)
  How spectrally efficient is the system's technology? Trunked systems are considered efficient "as well as any technological systems features, which is designed to enhance the efficiency of the system and provide for the efficient use of the spectrum."

- System Implementation factors (Maximum score 100 points)
  The applicant will be required to demonstrate funding and provide documentation demonstrating the planning process for the proposed system. Is the proposed system being installed as a slow growth system (within the next five years) or is this system ready to be installed now? Documentation must be provided to the Regional Planning Committee from the agency planning to implement a system demonstrating funding for the project has been secured.

- Geographic Efficient (Maximum score 100 points)
  The ratio of subscriber units to area covered and the channel reuse potential for any proposed system will receive a high score. Systems that are covering large geographic areas will have greater potential for channel reuse and will therefore receive a high score.

- Givebacks (Maximum score 200 points)
  The Regional Planning Committee will consider the number of channels being given back by an applicant and the availability of these channels to be reused by other potential applicants.

The current 700MHz frequency allotment list is based on an assumption that the 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 a three-mile 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.

If at any time a system is allocated channels within Region 16 (Kansas), but the system cannot be developed within the agreed upon guidelines (slow growth), the channels will be returned to the county pool allotments they originated from and again be available to other agencies in the region.

It is the recommendation of the Region 16 (Kansas) 700 MHz Regional Planning Committee that any public safety entity within a county requesting through the application process utilization of any 700 MHz narrowband general use channels be encouraged to coordinate with the Region 16 (Kansas) 800 MHz Regional Planning Committee to determine availability of any 12.5 KHz channels in their area of operation.

5.3 Guidelines and procedures for protection of incumbent TV/DTV stations within the region or near the region's border during the DTV transition period.

Region 16 (Kansas) currently consists of a limited number of incumbent TV/DTV broadcasters in the 769-775 MHz and 799-805 MHz frequency bands. To ensure these broadcasters are protected, any applicants within Region 16 (Kansas) requesting to operate a system within the service area of the incumbent TV/DTV must adhere to the requirements of §90.545 in the Federal Communication Commission Code of Federal Regulations CFR 47 Part 90. Additionally, the applicant will be responsible for adhering to the provisions of the National Communications Committee (NCC) document Appendix J "DTV Transition."

5.4 Interoperability Plans and Requirements

It is the intentions of the Region 16 (Kansas) RPC to implement and utilize the Interoperability Channels as recommended by the National Coordination Committee (NCC), and will use the guidelines in Appendix K as a template to determine if an application submitted to the RPC meets the Region 16 planning standards. Presently, Region 16 (Kansas) does not have a comprehensive interoperability plan that is developed and accepted by all applicable parties.

Region 16 (Kansas) public safety users require effective command, control, coordination, communication and sharing of information with many criminal justice and public safety agencies. Numerous incidents annually require some form of mutual aid and coordinated response. The more critical the incident is the greater the need for interoperable communications.

The public safety community requires interoperable communications that provides the ability to communicate and share information as authorized when it is needed, where it is needed, and in a mode that allows users to effectively utilize it.

As an effort to initiate multi-jurisdictional interoperable communications within Region 16 (Kansas) the deployment of two mobile communication trailers utilizing 800 MHz mutual aid channels in conjunction with the ACU1000 audio switch was implemented in 2004 to provide the necessary cross-band radio communications.

5.5 Bylaws.

During the initial stages of the planning process, the Regional Planning Committee discussed, revised and adopted a set of Bylaws that it felt served the best interests of Region 16 (Kansas). As referenced earlier, the Bylaws for Region 16 (Kansas) are attached as Appendix H in this document.

5.6 Spectrum utilization agreements with other regions.

Counties or other geographic subdivisions within 70 miles of the Regional border need to share spectrum with the adjacent Region(s). The appropriate ratio of channels shall be allotted to counties in adjacent Regions based upon each county's population. A 25 kHz building block will be used to distribute spectrum between the Regions. A description of the demographics of the affected border areas shall be included.

The requirements for adjacent Region concurrence will require a waiver if the adjacent Region has not yet formed. The Region filing the plan must use the pre-planning procedure. The waiver request must be filed concurrently with the plan, and contained in the cover letter.

5.7 Pre-coordination method

The Region 16 (Kansas) RPC intends to utilize the "Computer Assisted Pre-coordination Resource and Database system" (CAPRAD) developed by the National Law Enforcement and Corrections Technology Center. The pre-packed channel assignments within the CAPRAD system will be utilized in addition to the systems notification process. The RPC will adhere to the NPSTC 700MHz general use channel sort, as shown on the CAPRAD database and Appendix L of this document. Region 16 will participate in the CAPRAD database, and keep the Regional Plan and current frequency allotment/allocation information on the database.

5.8 Frequency coordination database and flowchart.

It is the intentions of the Region 16 (Kansas) RPC to implement and adhere to the standards that have been currently developed in the 700 MHz Public Safety Frequency Coordination database and application flowchart. However, the Region 16 RPC has the authority to change the original frequency allotment if needed.

In order to keep the frequency allotments within Region 16 current, an annual review of the allotments can be made at one of the scheduled RPC meetings, and recommended changes to the plan can be voted on if needed. The majority of members in attendance at a meeting of the RPC must approve any changes to the Regional allotments. If plan modifications are approved, the Chairperson will, if necessary, obtain adjacent Region approval and file a plan amendment indicating the approved changes with the Federal Communications Commission.

SECTION 6: INTEROPERABILITY CHANNELS

The ability for agencies to effectively respond to mutual aid requests directly depends on their ability to communicate with each other. This Plan seeks to facilitate the communications necessary for effective mutual aid. As part of the Region 16 (Kansas)

700 MHz plan the Regional Planning Committee (RPC) recognizes the necessity for a statewide interoperability plan to be established and implemented to meet the needs of Kansans during emergency situations as well as normal daily occurrences. The State of Kansas is subject to a variety of potential incidents including, natural disasters (floods, tornadoes, ice storms, range fires, etc.), radiological incidents, terrorist activities, agri-terrorism, and natural or manmade bio incidents.

Currently, the Kansas Highway Patrol oversees responsibility for the interoperability channels within the State of Kansas. At the present time the Kansas Highway Patrol is coordinating with the Region 16 (Kansas) RPC for administration of these channels.

The narrowband voice interoperability channels (sixty-four at 6.25 kHz bandwidth) are defined on a nationwide basis. Appendix K shows the designation of these channels as defined by the 700 MHz National Coordination Committee (NCC). These channels shall maintain the same usage within each region and across regional borders. They have been sub-divided into different service categories. Region 16 (Kansas) will utilize the ANSI/TIA 102 Series standards (Project 25) as the Digital Interoperability Standard for the conventional-only mode of operation on narrowband voice interoperability channels. There are 2 Calling channel sets and 30 Tactical channel sets. Channel Sets are comprised of two 6.25 kHz channels each.

The Tactical channel sets are subdivided into the following recommended categories:
4 for Emergency Medical Services
4 for Fire Services
4 for Law Enforcement Services
2 for Mobile Repeater operation
2 for Other Public Services
12 for General Services
2 for Data

6.1 Calling Channels

The RPC will define when and where the two calling channels are to be used. These calling channels, which appear in the Table of Interoperability Channels as “7CALL 50” and “7CALL 70” must be monitored, as appropriate, by licensees who employ interoperability infrastructure in the associated channel group. When calling channels are integrated into infrastructure, their coverage must at least match the coverage of the other interoperability channels in the system. In addition to the usual calling channel functions, the calling channels may to be used to notify users when a priority is declared on one or more of the tactical interoperability channels. 700 MHz General Use channel licensees will be responsible for monitoring interoperable calling channels. Refer to Appendix K of this document for the “Table of Interoperability Channels.”

6.2 Tactical Channels

All Interoperability channels, except as otherwise provided, shall be used for conventional-only operation. Normally, users will 'call' a dispatch center on one of the "Calling Channels" and be assigned an available tactical channel. Deployable narrowband operations (voice, data, and trunking) shall be afforded access to the same pool of channels used for similar fixed infrastructure operations. In the event of conflict between multiple activities, prioritized use shall occur.

6.3 Encryption

Use of encryption is prohibited on calling channels and permitted on all other interoperability channels. A standardized encryption algorithm for use on the interoperability channels must be TIA/EIA IS AAAAA Project 25 DES encryption protocol.

6.4 Deployable Systems

Region 16 strongly supports use of deployable systems, both conventional and trunked. Deployable systems are prepackaged systems that can deploy by ground or air to an incident to provide additional coverage and capacity on designated 700 MHz interoperability channels and/or agency specific General Use Channels. This will minimize the expense of installing extensive fixed infrastructure in areas while still providing mission critical functionalities as the Region recognizes the difficulty of providing complete coverage in all areas due to financial, demographic and geographical constraints.

Agencies should have conventional deployable systems capable of being tuned to any of the FCC designated/NCC recommended interoperability tactical channels. Those agencies that are part of a multi-agency trunked system and commonly provide mutual aid to each other are encouraged to have trunked deployable systems that operate on the tactical channels designated by the FCC for this use. It is expected that the tactical channels set aside for trunked operation will be heavily used by deployable systems. Therefore, the tactical channels cannot be assigned to augment general use trunked systems.

General Public Safety Services Channels labeled 7TAC 51 through 7TAC 56, 7TAC 71 through 7TAC 76, or both, shall be made available for "deployable" equipment used during disasters and other emergency events that place a heavy, unplanned burden upon in-place radio systems. The RPC shall consider the need for both "deployable trunked" and "deployable conventional" systems and make those channels available to all entities within Region 16 (Kansas) as determined.

6.5 Trunking on the Interoperability Channels

Trunking the Interoperability channels on a secondary basis shall be limited to operation on eight specific 12.5 KHz channel sets, divided into two subsets of four 12.5 kHz channels. One subset is defined by 7TAC 51 through 7TAC 56 and the other by 7TAC 71 through 7TAC 76.

Any licensee implementing base station operation in a trunking mode on Interoperability Channels shall provide and maintain on a continuous (24 hr x 7 day) basis at its primary dispatch facility the capability to easily remove one or more of these interoperability channels, up to the maximum number of such trunking channels implemented, from trunking operation when a conventional access priority that is equal to or higher than their current priority is implemented.

Region 16 (Kansas) RPC shall review and limit the number of interoperability channels that may be integrated into any single trunked system for routine use, so as to ensure that those channels do not become such an integral part of the trunked radio system operation that it becomes politically and/or technically impossible to extract them from the trunked system in the event of an emergency/incident having higher priority.

The Region 16 (Kansas) RPC shall establish the following guidelines for I/O channel allocation on single trunked systems:

For systems having 10 or fewer "general use" voice paths allocated, one (1) trunked Interoperability Channel set is permitted. For systems having more than 10 "general use" voice paths allocated, two (2) trunked Interoperability Channel sets are permitted. The Region 16 (Kansas) RPC will consider allotting additional Interoperability Channel set(s) for trunked systems having more than 20 "general use" voice paths allocated upon a showing of need and upon a determination that assignment of the Interoperability Channel set(s) will not adversely impact availability of those channels to other trunked and/or conventional radio systems in the area (e.g. a single consolidated trunked system servicing all public safety agencies in an area might satisfy this criterion). The maximum number of Interoperability channel sets for trunked systems permitted for use by an individual licensee is four.

The channels (two 6.25 KHz pairs) in Reserve Spectrum immediately adjacent to the 7TAC channels where secondary trunking is permitted [(21, 22), (101, 102), etc. are available for secondary trunking, but only in conjunction with the adjacent Interoperability 12.5 kHz channel pair in a trunked system and will be administered by the RPC. The Region 16 (Kansas) RPC may elect to permit 25 KHz trunking on interoperability channels. If the RPC allows this, the Reserve Spectrum guard channels would become part of those trunking channels. The RPC will consider the impact on the channels adjacent to these 25 kHz trunking channels prior to making a decision to allow 25 KHz trunking on these interoperability channels. Additionally, the RPC will consider

the impact to the ability of these 25 kHz trunking channels to be immediately reverted to 12.5 KHz conventional interoperability use.

6.6 Standard Operating Procedures on the Trunked I/O Channels for I/O Situations above Priority Level 4

The safety and security of life and property determines appropriate interoperable priorities of access and/or reverting from secondary trunked to conventional operation. In the event secondary trunked access conflicts with conventional access for the same priority, conventional access shall take precedence. Access priority for "mission critical" communications will be assigned as follows:

1. Disaster and extreme emergency operations 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.
   [Priority 4 is the default priority when no higher priority has been declared.]

For those systems employing I/O channels in the trunked mode, the RPC will establish interoperability talk groups and priority levels for those talk groups so that it is easy for dispatch to determine whether the trunked I/O conversation in progress has priority over the requested conventional I/O use. The RPC shall also determine whether a wide-area I/O conversation has priority over a local I/O conversation.

6.7 Standardized Nomenclature

Region 16 (Kansas) shall utilize the standardized nationwide nomenclature established by the NCC. It is recommended that all 700 MHz public safety subscriber equipment using an alphanumeric display, show the established label/s defined in Appendix K, when the radio is 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, it is recommended that the letter "D" should be appended to the end of the label.

6.8 Data Only Use of the I/O Channels

Narrowband data-only interoperability operation on the Interoperability channels on a secondary basis shall be limited to two specific 12.5 KHz channel sets. One set is defined as 7 DATA69 and the other as 7. DATA89

6. 9 State Interoperability Executive Committees

The Region 16 (Kansas) 700MHz interoperability channels have been assigned to the Kansas Highway Patrol for administration. The Kansas Highway Patrol and the State of Kansas, has opted to coordinate with the RPC to plan and administer the interoperability channels, in lieu of establishing a State Interoperability Executive Committee. Administering these channels through the RPC will insure regional representation from state, county, and local governments, with additional representation from special districts and federal agencies, as appropriate. The RPC communicates to and represents all disciplines, in which case emergency medical, fire, general government, law enforcement, and transportation agencies from each level of government have equal opportunity for representation and input.

It is the intentions of Region 16 (Kansas) to utilize the National Incident Management Plan and the corresponding Incident Command System (ICS) for incident management within the region.

The RPC will oversee the administration and technical parameters of the infrastructure for the interoperability channels within Region 16 (Kansas).

The templates for a *Memorandum of Understanding* for operating the 700 MHz Interoperability Channels and a *Sharing Agreement* can be found in Appendix M. The MOU shall be typed on appropriate RPC letterhead and the Sharing Agreement on appropriate agency letterhead.

6.1 0 Minimum Channel Quantity

The minimum channel quantity for Calling and Tactical channel sets requires 8 I/O channel slots in each subscriber unit. Including direct (simplex) mode on these channel sets, up to 16 slots in each radio will be programmed for I/O purposes. Backbone issues are deferred to the RPC. Subscriber units, which routinely roam through more than one jurisdiction up to nationwide travel will require more than the minimum channel quantity. The calling channel sets (7CALL 50 and 7CALL 70) shall be implemented in all voice subscriber units in repeat-mode and direct (simplex) mode. Direct mode is permitted in the absence of repeat operation or upon prior dispatch center coordination. If the local Calling channel set is not known, 7CALL 50 shall be attempted first, then 7CALL 70. Attempts shall be made on the repeater mode first then on the direct (simplex) mode.

A minimum set of Tactical channels shall be implemented in every voice subscriber unit in the direct (simplex) mode. Specific channel sets are shown below (The RPC may exceed this minimum requirement.)

- 7 7TAC51D through 7TAC56D channel sets
- 7 7TAC71D through 7TAC76D channel sets

NOTE: Voice subscriber units subject to multi-jurisdictional or nationwide roaming should have all I/O voice channels, including direct (simplex) mode, programmed for use.

6.1 1 Direct (Simplex) Mode

In direct (simplex) mode, transmitting and receiving on the output (transmit) side of the repeater pair for subscriber unit-to-subscriber unit communications at the scene does not congest the repeater station with unnecessary traffic. However, should someone need the repeater to communicate with the party who is in direct mode, the party would hear the repeated message, switch back to the repeater channel, and join the communications. Therefore, operating in direct (simplex) mode shall only be permitted on the repeater output side of the voice I/O channel sets.

6.12 Common Channel Access Parameters

Common channel access parameters will provide uniform I/O communications regardless of jurisdiction, system, manufacturer, etc. Thus, the Calling and TAC channels (all of them) should include a common Network Access Code (NAC) as the national standard. The secondary, trunked I/O channels would be excluded in the trunked mode. However, when reverted to conventional I/O, the common NAC would then apply. This national requirement should apply to base stations and subscriber units. This should apply to fixed or temporary operations. This should apply to tactical, vice, or other mutual aide conventional I/O use. Common channel access parameters for all voice I/O shall utilize the default values (ANSI/TIA/EIA-102, BAAC-2000, approved April 25, 2000) provided in every radio regardless of manufacturer. Any common channel access parameters not provided shall be programmed accordingly. These parameters include the following:

P25 Network Access Code - $293 (default value)
P25 Manufacturers ID - $00 (default value)
P25 Designation ID - $FFFFFF (designates everyone)
P25 Talk group ID - $0001 (default value)
P25 Message Indicator $000000…0, out to 24 zeros (unencrypted)
P25 Key ID - $0000 (default value)
P25 Algorithm ID - $80 (unencrypted)

Any deviation from $293 will not be permitted unless the RPC can demonstrate in Plan amendment through the FCC-approved process that the intent of $293 will be preserved on ALL conventional voice I/O channels – transmit and receive.

SECTION 7: ADDITIONAL INTEROPERABILITY SPECTRUM

The Region 16 (Kansas) RPC has determined at the present time a necessity to set aside additional interoperability spectrum to meet regional needs is not required. In the future as 700 MHz systems are implemented the regional planning committee may address the addition of selected channels for interoperability purposes if deemed necessary; however, any channels allocated in the future as additional interoperability spectrum would be required to adhere to the same requirements as National Interoperability Channels. In addition, the Region 16 (Kansas) Regional Planning Committee would submit a request for amending the regional plan to the Federal Communications Commission for review and approval.

SECTION 8: GENERAL USE SPECTRUM ASSIGNMENT

8.1 General Use Narrowband Channels

It is the intentions of the Region 16 (Kansas) Regional Planning Committee to assign the narrowband general use 700 MHz channels allocated by the Federal Communications Committee as they were initially packed in the CAPRAD database. The packing of the 700 MHz channels across the nation were based on county-wide populations and hypothetical coverage predictions that should enhance the ability of the Region 16 (Kansas) Regional Planning Committee to allocate channels more efficiently to those qualified public safety entities throughout the region. The packing of the narrowband general use channels on a national level should also enhance the ability of the committee to coordinate channel usage along the borders with adjacent regions and resolve any conflicts that may arise.

Assignment of the 700 MHz narrowband general use channels in Region 16 (Kansas) are shown in Appendix L. As public safety entities make application for usage of the 700 MHz narrowband general use channels, the Regional Planning Committee will ensure that channel assignments are maintained and updated within the CAPRAD database. This will assist both Regional Planning Committees in adjacent regions and frequency coordinators stay current on the narrowband general use channel assignments in Region 16 (Kansas).

8.2 Narrowband Low Power 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 transmit power on-scene incident response purposes, using mobiles and portables, subject to Commission approved RPC Regional Plans. 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. 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). However, users are encouraged to operate in simplex mode with the least practicable 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.

Whereas advantages exist in not making assignments, the reverse is also true. If, for example, fire fighters operate on a specific frequency or set of frequencies in one area, there is some logic in replicating that template throughout the Region for firefighter equipment. If there are no assignments, such a replication is unlikely. In seeking the middle ground with positive attributes showing up both for assignments and no assignments, we recommend the following regarding assignments associated with the eighteen (18) low power channels for which the Regional Planning Committee has responsibility:

- Generic - Channel #’s 1-4 and 949-952 are set aside as generic 2 watt channels for use by public safety agencies operating within Region 16, and the complementary mobile channels # 961-964 and 1909-1912 are set aside as 2 watt generic mobile channels also for use by public safety agencies likewise operating within Region 16.

- Fire/ EMS/ Consequence Management - Channel #’s 5-8 are designated as Fire Protection/Emergency Medical and Consequence Management 2 watt channels for licensing and exclusive use by the Fire/Emergency Medical disciplines, and the complementary mobile channel #’s 965-968 are set aside as Fire/Emergency Medical and Consequence Management 2 watt mobile channels also for licensing and exclusive use by the Fire/Emergency Medical disciplines.

- Law/ Crisis Management - Channel #’s 953-956 are set aside as Law Enforcement/Crisis Management 2 watt channels for licensing and exclusive use by the Law Enforcement discipline, and the complementary 2 watt mobile channel #’s 1913-1916 are set aside as Law Enforcement/Crisis Management

mobile channels also for licensing and exclusive use by the Law Enforcement discipline.

- Multidisciplinary Joint Public Safety Operations - Channel #'s 957-958 are set aside as Multidisciplinary Joint Public Safety Operations 2 watt channels for licensing and the complementary 2 watt mobile channel #'s 1917-1918 are also set aside as Multidisciplinary Joint Public Safety Operations Channels for use by political subdivisions and public safety agencies operating under a unified command at a common incident for the express mission of safety of life, property or environment.

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 the proximity of a common incident. Users should license multiple channels and be prepared to operate on alternate channels at any given operational area. The RPC recommends that all 700 MHz users and applicants have **the capability to access** ALL of the thirty-two (32) NCC approved interoperability channels in both duplex and simplex modes. Under no circumstances may a user claim a channel as exclusively theirs.

SECTION 9: EXPLANATION OF HOW NEEDS WERE ASSIGNED PRIORITIES IN AREAS WHERE NOT ALL ELIGIBLES COULD RECEIVE LICENSES

The same priority matrix described in Section 5.2 of this document will be utilized to resolve the allocation of channels and determining priorities when everyone's needs in a specific area cannot be met. This priority matrix is based on the following criteria:

- Service (Maximum score of 350 points)
  Police, fire, local government, combined systems, multi-jurisdictional systems, etc.)

- Intersystem and Intra-system interoperability (Maximum score 100 points)
  How well the proposed level 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 within their present system.

The applicant shall stipulate how they will accomplish interoperability in their proposed system (gateway, switch, cross-band repeater, console patch, software defined radios 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 150 points)
  Is the proposed 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 350 points)
  How spectrally efficient is the system's technology? Trunked systems are considered efficient "as well as any technological systems features, which is designed to enhance the efficiency of the system and provide for the efficient use of the spectrum."

- System Implementation factors (Maximum score 100 points)
  The applicant will be required to demonstrate funding and provide documentation demonstrating the planning process for the proposed system. Is the proposed system being installed as a slow growth system (within the next five years) or is this system ready to be installed now? Documentation must be provided to the Regional Planning Committee from the agency planning to implement a system demonstrating funding for the project has been secured.

- Geographic Efficient (Maximum score 100 points)
  The ratio of subscriber units to area covered and the channel reuse potential for any proposed system will receive a high score. Systems that are covering large geographic areas will have greater potential for channel reuse and will therefore receive a high score.

- Givebacks (Maximum score 200 points)

The Regional Planning Committee will consider the number of channels being given back by an applicant and the availability of these channels to be reused by other potential applicants.

SECTION 10: ADJACENT REGION COORDINATION

It is the intentions of the Region 16 (Kansas) RPC to utilize the CAPRAD database to coordinate proposed applications with adjacent regions where necessary prior to approval of the application and submittal to the designated frequency coordinator.

SECTION 11: A DETAILED DESCRIPTION OF HOW THE PLAN PUT SPECTRUM TO THE BEST POSSIBLE USE

Initial channel allotments will be made on the basis of 25 kHz channels. To maximize spectrum utilization, prudent engineering practices in channel allotments will be made, on the basis of 25 kHz channels.

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 16 (Kansas), the applicants should acknowledge the deadline for converting all equipment to 6.25 kHz or 6.25 kHz equivalent technology is 12/31/2016. For narrowband mobile data requests, one mobile data channel will consist of two (2) 6.25 KHz channels/one (1) 12.5 KHz channel. Narrowband 6.25 KHz channels can be aggregated for data use to a maximum bandwidth of 25 KHz. As 6.25 KHz migration evolves, an agency that creates any “orphaned” 6.25 KHz channels should realize that these channels would be allocated to nearby agencies requesting channels to maintain consistent grouping and utilization of 25 KHz blocks within the region

The narrowband pool allotments with Region 16 (Kansas) will have a channel bandwidth of 25 kHz. These 25 kHz allotments have been characterized as “Technology Neutral” and flexible enough to accommodate multiple technologies utilizing multiple bandwidths. 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 be used at another location within the county area where it was originally approved, if it meets co- and adjacent channel interference criteria. Region 16 will utilize **“county areas”** as guidelines for channel implementation with the area of Region 16. The definition of **“county area”** in this plan is the geographical/political boundaries of a given county, plus a distance of up to 15 miles outside of the county.

When in the best interest of public safety communications and efficient spectrum use within the Region, the RPC 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.

To maximize spectrum utilization, receivers of the highest quality must be used in systems. Given a choice of radios to choose from in a given technology family, agencies should use the units with the best specifications. The RPC will not protect agencies from interference if their systems utilize low quality receivers.

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 16 (Kansas) 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 Public Safety Telecommunications Council 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 16 (Kansas) 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.

SECTION 12: A DETAILED DESCRIPTION OF THE FUTURE PLANNING PROCEDURES

Region 16 (Kansas) RPC intends to conduct formal meetings a minimum of twice each year or as needed by the call of the chair to review relevant information concerning the 700 MHz spectrum, changes in Federal Communication Commission requirements and resolve application issues. Through utilization of the CAPRAD system the review and concurrence of an applicants system should be appropriate in most cases without the need for all RPC members to meet formally.

In addition, any future proposed changes to the approved Region 16 (Kansas) Regional Plan will be submitted to adjacent regions for concurrence, prior to requesting the Federal Communications Commission amend the approved plan.

SECTION 13: A CERTIFICATION BY THE REGIONAL PLANNING CHAIRPERSON THAT ALL PLANNING COMMITTEE MEETINGS, INCLUDING SUBCOMMITTEE OR EXECUTIVE COMMITTEE MEETINGS WERE OPEN TO THE PUBLIC.

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

Signed _____

APPENDIX A
Committee Membership

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APPENDIX A
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APPENDIX A
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APPENDIX B
County and City Data

COUNTY	CITY
ALLEN COUNTY	
ANDERSON COUNTY	
ATCHISON COUNTY	
BARBER COUNTY	
BARTON COUNTY	
BOURBON COUNTY	
BROWN COUNTY	
BUTLER COUNTY	El Dorado
CHASE COUNTY	
CHAUTAUQUA COUNTY	
CHEROKEE COUNTY	
CHEYENNE COUNTY	
CLARK COUNTY	
CLAY COUNTY	
CLOUD COUNTY	
COFFEY COUNTY	
COMANCHE COUNTY	
COWLEY COUNTY	
CRAWFORD COUNTY	
DECATUR COUNTY	
DICKINSON COUNTY	
DONIPHAN COUNTY	
DOUGLAS COUNTY	Lawrence
EDWARDS COUNTY	
ELK COUNTY	
ELLIS COUNTY	Hays
ELLSWORTH COUNTY	
FINNEY COUNTY	Garden City
FORD COUNTY	
FRANKLIN COUNTY	
GEARY COUNTY	
GOVE COUNTY	
GRAHAM COUNTY	
GRANT COUNTY	
GRAY COUNTY	
GREELEY COUNTY	
GREENWOOD COUNTY	
HAMILTON COUNTY	
HARPER COUNTY	
HARVEY COUNTY	
HASKELL COUNTY	
HODGEMAN COUNTY	

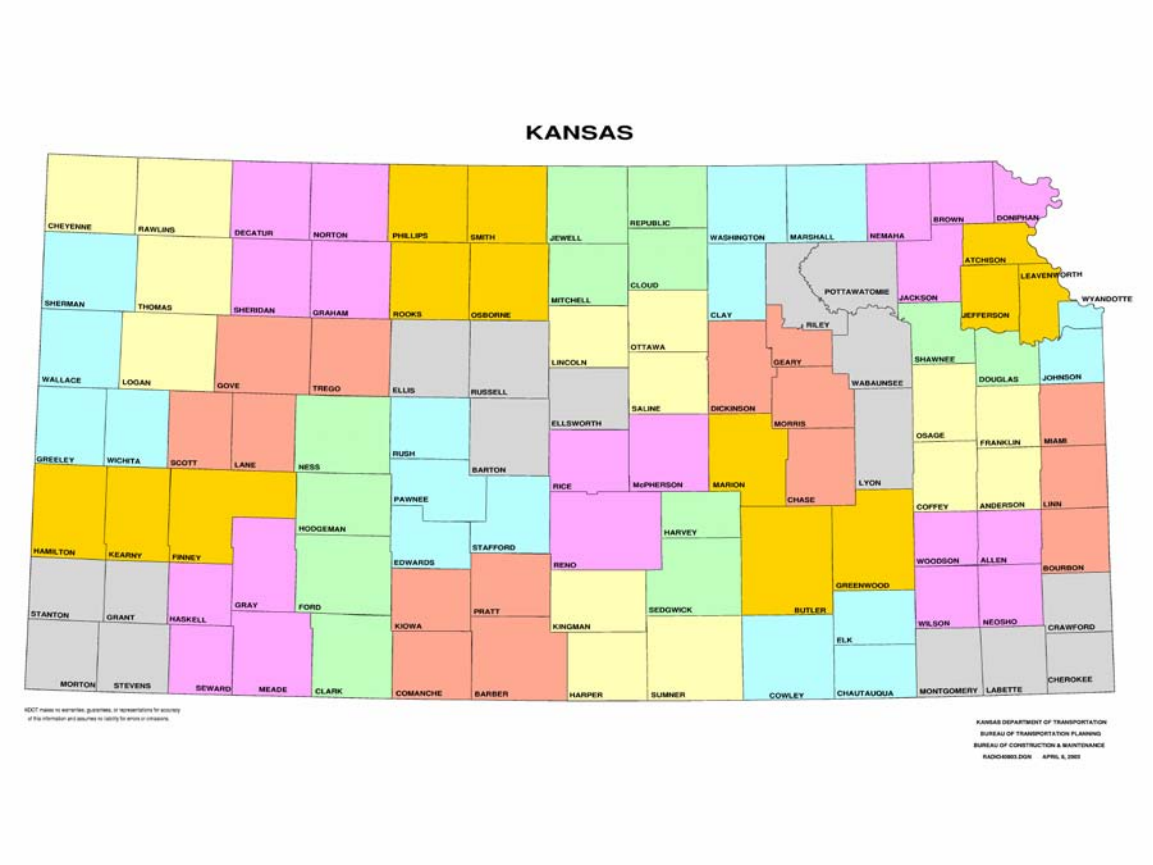
APPENDIX B
County and City Data

JACKSON COUNTY	
JEFFERSON COUNTY	
JEWELL COUNTY	
JOHNSON COUNTY	Olathe
KEARNY COUNTY	
KINGMAN COUNTY	
KIOWA COUNTY	
LABETTE COUNTY	
LANE COUNTY	
LEAVENWORTH COUNTY	Leavenworth
LINCOLN COUNTY	
LINN COUNTY	
LOGAN COUNTY	
LYON COUNTY	
MARION COUNTY	
MARSHALL COUNTY	
MCPHERSON COUNTY	
MEADE COUNTY	
MIAMI COUNTY	
MITCHELL COUNTY	
MONTGOMERY COUNTY	
MORRIS COUNTY	
MORTON COUNTY	
NEMAHA COUNTY	
NEOSHO COUNTY	Chanute
NESS COUNTY	
NORTON COUNTY	
OSAGE COUNTY	
OSBORNE COUNTY	
OTTAWA COUNTY	
PAWNEE COUNTY	
PHILLIPS COUNTY	
POTTAWATOMIE COUNTY	
PRATT COUNTY	
RAWLINS COUNTY	
RENO COUNTY	Hutchinson
REPUBLIC COUNTY	
RICE COUNTY	
RILEY COUNTY	Manhattan
ROOKS COUNTY	
RUSH COUNTY	
RUSSELL COUNTY	
SALINE COUNTY	Salina
SCOTT COUNTY	

APPENDIX B
County and City Data

SEDGWICK COUNTY	Wichita
SEWARD COUNTY	
SHAWNEE COUNTY	Topeka
SHERIDAN COUNTY	
SHERMAN COUNTY	
SMITH COUNTY	
STAFFORD COUNTY	
STANTON COUNTY	
STEVENS COUNTY	
SUMNER COUNTY	
THOMAS COUNTY	
TREGO COUNTY	
WABAUNSEE COUNTY	
WALLACE COUNTY	
WASHINGTON COUNTY	
WICHITA COUNTY	
WILSON COUNTY	
WOODSON COUNTY	
WYANDOTTE COUNTY	Kansas City, KS

APPENDIX C
Region 16 (Kansas)



APPENDIX D
POPULATION DATA

Population of Kansas Counties

1990 and 2000 Census Data

County	1990	2000	Percent Change	Increase or Decrease
Allen	14,638	14,385	-1.7	-253
Anderson	7,803	8,110	3.9	307
Atchison	16,932	16,774	-0.9	-158
Barber	5,874	5,307	-9.7	-567
Barton	29,382	28,205	-4.0	-1,177
Bourbon	14,966	15,379	2.8	413
Brown	11,128	10,724	-3.6	-404
Butler	50,580	59,482	17.6	8,902
Chase	3,021	3,030	0.3	9
Chautauqua	4,407	4,359	-1.1	-48
Cherokee	21,374	22,605	5.8	1,231
Cheyenne	3,243	3,165	-2.4	-78
Clark	2,418	2,390	-1.2	-28
Clay	9,158	8,822	-3.7	-336
Cloud	11,023	10,268	-6.8	-755
Coffey	8,404	8,865	5.5	461
Comanche	2,313	1,967	-15.0	-346
Cowley	36,915	36,291	-1.7	-624
Crawford	35,582	38,242	7.5	2,660
Decatur	4,021	3,472	-13.7	-549
Dickinson	18,958	19,344	2.0	386
Doniphan	8,134	8,249	1.4	115
Douglas	81,798	99,962	22.2	18,164
Edwards	3,787	3,449	-8.9	-338
Elk	3,327	3,261	-2.0	-66
Ellis	26,004	27,507	5.8	1,503
Ellsworth	6,586	6,525	-0.9	-61
Finney	33,070	40,523	22.5	7,453
Ford	27,463	32,458	18.2	4,995
Franklin	21,994	24,784	12.7	2,790
Geary	30,453	27,947	-8.2	-2,506
Gove	3,231	3,068	-5.0	-163
Graham	3,543	2,946	-16.9	-597
Grant	7,159	7,909	10.5	750
Gray	5,396	5,904	9.4	508
Greeley	1,774	1,534	-13.5	-240
Greenwood	7,847	7,673	-2.2	-174
Hamilton	2,388	2,670	11.8	282
Harper	7,124	6,536	-8.3	-588
Harvey	31,028	32,869	5.9	1,841

APPENDIX D
POPULATION DATA

County	1990	2000	Change	Decrease
Haskell	3,886	4,307	10.8	421
Hodgeman	2,177	2,085	-4.2	-92
Jackson	11,525	12,657	9.8	1,132
Jefferson	15,905	18,426	15.9	2,521
Jewell	4,251	3,791	-10.8	-460
Johnson	355,021	451,086	27.1	96,065
Kearny	4,027	4,531	12.5	504
Kingman	8,292	8,673	4.6	381
Kiowa	3,660	3,278	-10.4	-382
Labette	23,693	22,835	-3.6	-858
Lane	2,375	2,155	-9.3	-220
Leavenworth	64,371	68,691	6.7	4,320
Lincoln	3,653	3,578	-2.1	-75
Linn	8,254	9,570	15.9	1,316
Logan	3,081	3,046	-1.1	-35
Lyon	34,732	35,935	3.5	1,203
McPherson	27,268	29,554	8.4	2,286
Marion	12,888	13,361	3.7	473
Marshall	11,705	10,965	-6.3	-740
Meade	4,247	4,631	9.0	384
Miami	23,466	28,351	20.8	4,885
Mitchell	7,203	6,932	-3.8	-271
Montgomery	38,816	36,252	-6.6	-2,564
Morris	6,198	6,104	-1.5	-94
Morton	3,480	3,496	0.5	16
Nemaha	10,446	10,717	2.6	271
Neosho	17,035	16,997	-0.2	-38
Ness	4,033	3,454	-14.4	-579
Norton	5,947	5,953	0.1	6
Osage	15,248	16,712	9.6	1,464
Osborne	4,867	4,452	-8.5	-415
Ottawa	5,634	6,163	9.4	529
Pawnee	7,555	7,233	-4.3	-322
Phillips	6,590	6,001	-8.9	-589
Pottawatomie	16,128	18,209	12.9	2,081
Pratt	9,702	9,647	-0.6	-55
Rawlins	3,404	2,966	-12.9	-438
Reno	62,389	64,790	3.8	2,401
Republic	6,482	5,835	-10.0	-647
Rice	10,610	10,761	1.4	151
Riley	67,139	62,843	-6.4	-4,296
Rooks	6,039	5,685	-5.9	-354
Rush	3,842	3,551	-7.6	-291
Russell	7,835	7,370	-5.9	-465
Saline	49,301	53,597	8.7	4,296
Scott	5,289	5,120	-3.2	-169
Sedgwick	403,662	452,869	12.2	49,207
Seward	18,743	22,510	20.1	3,767

APPENDIX D
POPULATION DATA

County	1990	2000	Change	Decrease
Shawnee	160,976	169,871	5.5	8,895
Sheridan	3,043	2,813	-7.6	-230
Sherman	6,926	6,760	-2.4	-166
Smith	5,078	4,536	-10.7	-542
Stafford	5,365	4,789	-10.7	-576
Stanton	2,333	2,406	3.1	73
Stevens	5,048	5,463	8.2	415
Sumner	25,841	25,946	0.4	105
Thomas	8,258	8,180	-0.9	-78
Trego	3,694	3,319	-10.2	-375
Wabaunsee	6,603	6,885	4.3	282
Wallace	1,821	1,749	-4.0	-72
Washington	7,073	6,483	-8.3	-590
Wichita	2,758	2,531	-8.2	-227
Wilson	10,289	10,332	0.4	43
Woodson	4,116	3,788	-8.0	-328
Wyandotte	162,026	157,882	-2.6	-4,144
Kansas	**2,477,588**	**2,688,418**	**8.5**	**210,830**

Source: U.S. Census Bureau, 1990 CPH-L-79, 2000 DP-1.

APPENDIX E
USER AGREEMENTS

KHP 800 FREQUENCY AUTHORIZATIONS		
LOCAL AGENCIES	**Date of Request**	**Date Approved**
Barton County Communication Center	3/20/2001	4/6/2001
Bonner Springs PD	8/5/1998	8/14/1998
Brown County Sheriff's Office	4/10/2000	4/24/2000
Colby PD	9/6/2002	12/27/2002
Crawford County Sheriff's Office	1/20/1998	2/3/1998
Douglas County Sheriff's Office	4/1/1997	7/1/1997
Edwardsville PD	7/11/1997	7/31/1997
Finney County Sheriff's Office	9/17/2003	10/22/2003
Franklin County Sheriff's Office	1/23/1995	2/20/1995
Graham County Sheriff's Office	10/7/2002	12/27/2002
Greenwood County Sheriff's Office	6/1/1997	7/1/1997
Harvey County Communications Center	9/29/1992	10/19/1992
Hays PD	12/3/2002	12/27/2002
Holcomb PD	3/31/2003	4/25/2003
Jefferson County Sheriff's Office	12/5/1997	12/10/1997
Johnson County Sheriff's Office	1/7/2002	3/11/2002
Junction City PD	7/16/2003	8/18/2003
Kingman County Sheriff's Office	2/20/2003	3/24/2003
Kansas City Fire Department		7/23/1992
Labette County Sheriff's Office	6/16/1999	6/18/1999
Lake Quivira PD	9/25/2000	9/29/2000
Metropolitan Topeka Airport Authority	1/15/1999	2/1/1999
Osage County Sheriff's Office	12/22/1998	2/1/1999
Parsons PD	10/19/2000	11/9/2000
Prairie Band Potawatomie Tribal Police	11/28/2000	12/1/2000
Rooks County Sheriff's Office	3/25/2002	4/22/2002
Russell County Sheriff's Office	1/14/2002	3/11/2002
Salina Fire Department	3/29/2004	4/19/2004
Sedgwick County Sheriff's Office	12/10/2001	12/28/2001
Shawnee County Emergency Communications Center	3/2/2000	3/20/2000
Shawnee County Sheriff's Office	7/10/1995	7/26/1995
St. Mary's PD	1/11/2001	3/19/2001
Sumner County Emerg Communications/911	11/4/2002	12/31/2002
Topeka Police--Helicopter Unit	1/27/1995	2/20/1995
Trego County Communications	1/26/2003	2/7/2003
Wabaunsee County Sheriff's Office	5/15/2002	7/12/2002
Washburn University PD	9/9/1997	9/16/1997
Wyandotte County Coroner	9/28/1992	9/28/1992
STATE AGENCIES	**Date of Request**	**Date Approved**
Kansas University PD	10/31/1994	11/22/1994
The Kansas Lottery	8/28/2000	9/26/2000
Kansas Attorney General	10/16/1998	10/20/1998
Kansas Racing & Gaming Commission	4/9/1989	4/12/1989
Kansas Department of Corrections	7/10/2000	8/25/2000
-- El Dorado Correctional Facility	9/30/1994	11/22/1994
-- Lansing Correctional Facility	6/23/1998	7/7/1998
-- Topeka Correctional Facility	3/4/1998	4/13/1998
-- Winfield Correctional Facility	4/18/2002	5/16/2002
Topeka Juvenile Correctional Facility	1/22/1999	6/18/1999
Kansas Department of Revenue	2/13/2002	3/11/2002
Kansas Department of Transportation	7/25/2000	8/25/2000
Kansas Securities Commission	10/22/2001	10/25/2001
Kansas State Fire Marshal's Office	2/29/2000	3/7/2000
Kansas Department of Wildlife and Parks	7/29/2002	12/31/2002
Kansas National Guard--Counterdrug Special Operations	1/27/1999	3/7/2000
FEDERAL AGENCIES	**Date of Request**	**Date Approved**
Fort Riley (Provost Marshal)	8/15/2002	12/27/2002
US Department of Veteran's Affairs--Colmery-O'Neil	11/22/1998	2/1/1999
US Dept of Housing and Urban Development-OIG	1/30/2001	3/19/2001
US Postal Inspection Service	4/30/1997	7/1/1997

APPENDIX F
Participating Agencies

Agencies Receiving One (1) Used 800 MHz Radio

(These agencies received one (1) used Motorola portable radio that was to be kept in their dispatch center.)

Iola PD *(Allen County)*
Garnett PD *(Anderson County)*
Barber County Sheriff's Office
Fort Scott PD *(Bourbon County)*
Chautauqua County Sheriff's Office
Cherokee County Sheriff's Office
Coffey County Sheriff's Office
Winfield PD *(Cowley County)*
Decatur County Sheriff's Office
Dickinson County Sheriff's Office
Doniphan County Sheriff's Office
Edwards County Sheriff's Office
Elk County Sheriff's Office
Ellsworth County Sheriff's Office
Ford County Communications
Geary County Sheriff's Office
Gove County Sheriff's Office
Grant County Sheriff's Office
Gray County Sheriff's Office
Greeley County Sheriff's Office
Harper County Sheriff's Office
Haskell County Sheriff's Office
Hodgeman County Sheriff's Office
Jackson County Sheriff's Office
Jewell County Sheriff's Office
Kearny County Sheriff's Office
Kiowa County Sheriff's Office
Lane County Sheriff's Office
Linn County Sheriff's Office
Oakley PD *(Logan County)*
Marion County Sheriff's Office
Meade County Sheriff's Office
Miami County Sheriff's Office
Mitchell County Sheriff's Office
Montgomery County Sheriff's Office
Morris County Sheriff's Office
Morton County Sheriff's Office
Nemaha County Sheriff's Office

APPENDIX F
Participating Agencies

Neosho County E-911 Dispatch Center
Norton County Sheriff's Office
Osborne County Sheriff's Office
Phillips County Sheriff's Office
Pottawatomie County Sheriff's Office
Pratt PD *(Pratt County)*
Rawlins County Sheriff's Office
Reno County Sheriff's Office
Republic County Emergency Preparedness
Rice County Sheriff's Office
Riley County PD
Rush County Sherif'f's Office
Russell PD *(Russell County)*
Scott County Sheriff's Office
Liberal/Seward County Emergency Communications Center
Sheridan County Sheriff's Office
Sherman County Communications
Smith County Sheriff's Office
Stafford County Sheriff's Office
Stanton County Sheriff's Office
Thomas County Sheriff's Office
Wallace County Sheriff's Office
Washington County Sheriff's Office
Wichita County Sheriff's Office
Wilson County Sheriff's Office

These agencies also received a radio, but have received other permission to use KHP 800 MHz & appear on other listing.

Brown County Sheriff's Office
Crawford County Sheriff's Office
Finney County Sheriff's Office
Graham County Sheriff's Office
Greenwood County Sheriff's Office
Kingman County Sheriff's Office
Osage County Sheriff's Office
Rooks County Sheriff's Office
Trego County Sheriff's Office
Wabaunsee County Sheriff's Office
Hays PD *(Ellis County)*
Harvey County 911 Communications Center

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

DA 02-3194

November 19, 2002

WIRELESS TELECOMUNICATIONS BUREAU ACTION

REGION 16 (KANSAS) 700 MHz
PUBLIC SAFETY REGIONAL PLANNING COMMITTEE
ANNOUNCES THIRD MEETING

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee Chairs announce that the third meeting of Region 16 700 MHz Public Safety Regional Planning Committee will be held on Thursday, January 23, 2003, at 10:00 a.m. – 2:00 p.m., at the Kansas Highway Patrol Training Center, 2019 E. Iron, Salinas, Kansas.

The meeting of the Region 16 (Kansas) 700 MHz National Public Safety Planning Advisory Committee will convene at 10:00 a.m. The purpose of this meeting is to begin the task of establishing committees to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, Emergency Management and Utility services.

All eligible public safety providers whose sole purpose or principal purpose is to protect the safety of life, health, or property in Region 16 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 new public safety spectrum in the 700 MHz band are encouraged to attend. For further information about the meeting, please contact either of the two Region 16 Co-chairs listed below.

APPENDIX G

Edwin Geer, Chair
915 SW Harrison, DSOB 801-W
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Captain Ken Justice, Co-Chair
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Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

DA 03-611

March 3, 2003

WIRELESS TELECOMUNICATIONS BUREAU ACTION

REGION 16 (KANSAS) 700 MHz
PUBLIC SAFETY REGIONAL PLANNING COMMITTEE
ANNOUNCES FOURTH MEETING

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee Chairs announce that the fourth meeting of the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will be held Tuesday, April 22, 2003 from 10:00 a.m. – 3:00 p.m., at the Kansas Highway Patrol facility located at 1821 Front Street, Hays, Kansas.

The meeting of the Region 16 (Kansas) 700 MHz National Public Safety Regional Planning Committee will convene at 10:00 a.m. The purpose of this meeting is to continue developing a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, Emergency Management and Utility services.

All eligible public safety providers whose sole purpose or principal purpose is to protect the safety of life, health, or property in Region 16 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 new public safety spectrum in the 700 MHz band are encouraged to attend. For further information about the meeting, please contact either the Region 16 Chair or Vice-chair listed below.

APPENDIX G

Edwin Geer, Chair
915 SW Harrison, DSOB 881-W
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Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

DA 03-1749

May 22, 2003

WIRELESS TELECOMUNICATIONS BUREAU ACTION

REGION 16 (KANSAS) 700 MHz
PUBLIC SAFETY REGIONAL PLANNING COMMITTEE
ANNOUNCES FIFTH MEETING

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee Chairs announce that the fifth meeting of the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will be held Tuesday, July 22nd, 2003 from 10:00 a.m. – 3:00 p.m., at the Kansas Department of Transportation facility located at 121 North Campus Drive, Garden City, Kansas.

The meeting of the Region 16 (Kansas) 700 MHz National Public Safety Regional Planning Committee will convene at 10:00 a.m. The purpose of this meeting is to continue developing a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, Emergency Management and Utility services.

All eligible public safety providers whose sole purpose or principal purpose is to protect the safety of life, health, or property in Region 16 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.

Interested parties wishing to participate in the planning process for utilization of the new public safety spectrum in the 700 MHz band are encouraged to attend. Entities wishing to take part in this planning process may also participate by video conference from the Kansas Department of Transportation facility located at 217 S.E. 4th, Topeka, Kansas. For additional information concerning this meeting, please contact either the Region 16 Chair or Vice-chair listed below.

APPENDIX G

Edwin Geer, Chair
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DA 03-2823

September 4, 2003

WIRELESS TELECOMUNICATIONS BUREAU ACTION

**REGION 16 (KANSAS) 700 MHz
PUBLIC SAFETY REGIONAL PLANNING COMMITTEE
ANNOUNCES SIXTH MEETING**

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee Chair announces that the sixth meeting of the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will be held Tuesday, October 21st, 2003 from 10:00 a.m. – 3:00 p.m., at the Kansas Department of Wildlife and Parks/Great Plains Nature Center located at 6232 E. 29th St. North, Wichita, Kansas.

The meeting of the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will convene at 10:00 a.m. The purpose of this meeting is to continue developing a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, Emergency Management and Utility services. Additionally, the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will convene a consecutive meeting on this same date to continue the process for development of a statewide plan for use of the newly allocated 4.9 GHz frequency spectrum in the State of Kansas.

The Region 16 (Kansas) 700 MHz Public Safety Regional 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 16 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.

Interested parties wishing to participate in the planning process for utilization 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 additional information concerning this meeting, please contact either the Region 16 Chair or Vice-chair listed below.

APPENDIX G

Edwin Geer, Chairman
Region 16, 700 MHz Regional Planning Committee
915 SW Harrison, DSOB 881-W
KDOT
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PH: 785-296-5948
Email: geer@ksdot.org

or

Captain Ken Justice, Vice-Chair
Region 16, 700 MHz Regional Planning Committee
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Olathe, Kansas 66061
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445 12th St., S.W.
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DA 04-636

March 9, 2004

WIRELESS TELECOMUNICATIONS BUREAU ACTION

**REGION 16 (KANSAS) 700 MHz
PUBLIC SAFETY REGIONAL PLANNING COMMITTEE
ANNOUNCES NEXT MEETING**

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee announces that its next meeting will be held Wednesday, April 21, 2004 from 10:00 a.m. until 3:00 p.m., at the Kansas Department of Transportation office, located at 1290 S. Enterprise, Olathe, Kansas.

The meeting of the Region 16 700 MHz Public Safety Regional Planning Committee will convene at 10:00 a.m. The purpose of this meeting is to continue developing a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, Emergency Management and Utility services. Additionally, the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will convene a consecutive meeting on this same date to continue the process for development of a statewide plan for use of the newly allocated 4.9 GHz frequency spectrum in the State of Kansas.

The Region 16 Public Safety Regional Planning Committee meetings are open to the public. All eligible public safety providers whose sole purpose or principal purpose is to protect the safety of life, health, or property in Region 16 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.

Interested parties wishing to participate in the planning process for utilization 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 additional information concerning this meeting, please contact:

APPENDIX G

Edwin Geer, Chairman, Region 16, 700 MHz Regional Planning Committee
915 SW Harrison, DSOB 881-W
Kansas Department of Transportation (KDOT)
Topeka, Kansas 66612
Voice: 785-296-5948 Email: geer@ksdot.org

or

Captain Ken Justice, Vice-Chair
Region 16, 700 MHz Regional Planning Committee
1220 Enterprise
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Federal Communications Commission
445 12th St., S.W.
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DA 04-2612

August 24, 2004

WIRELESS TELECOMUNICATIONS BUREAU ACTION

REGION 16 (KANSAS) 700 MHz
PUBLIC SAFETY REGIONAL PLANNING COMMITTEE
ANNOUNCES MEETING

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee Chairs announce that the next meeting of the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will be held Wednesday, October 20, 2004 from 10:00 a.m. – 3:00 p.m., in the Kansas Highway Patrol facility located at 1821 Front Street, Hays, Kansas.

The meeting of the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will convene at 10:00 a.m. The purpose of this meeting is to continue developing a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, Emergency Management and Utility services.

All eligible public safety providers whose sole purpose or principal purpose is to protect the safety of life, health, or property in Region 16 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.

Interested parties wishing to participate in the planning for the use of new public safety spectrum in the 700 MHz band and 4.9 GHz band within Region 16 are encouraged to attend. For additional information concerning this meeting, please contact either the Region 16 Chair or Vice-Chair listed below.

Edwin Geer, Chair

Captain Ken Justice, Vice-Chair

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915 SW Harrison, DSOB 881-W
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Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

DA 04-4037

December 23, 2004

WIRELESS TELECOMUNICATIONS BUREAU ACTION

REGION 16 (KANSAS) 700 MHz
PUBLIC SAFETY REGIONAL PLANNING COMMITTEE
MEETING ANNOUNCEMENT

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee Chair announces that the next meeting of the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will be held Wednesday, February 9th, 2005 from 10:00 a.m. – 3:00 p.m., at the Kansas Highway Patrol Training Center, located at 2019 E. Iron, Salina, Kansas.

The meeting of the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will convene at 10:00 a.m. The purpose of this meeting is to continue developing a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, and Emergency Management. Additionally, the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will convene on this same date to continue the process for development of a statewide plan for use of the newly allocated 4.9 GHz frequency spectrum in the State of Kansas.

All eligible public safety providers whose sole purpose or principal purpose is to protect the safety of life, health, or property in Region 16 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.

Interested parties wishing to participate in the planning process for utilization of the new public safety spectrum in the 700 MHz band and 4.9 GHz band are encouraged

APPENDIX G

to attend. For additional information concerning this meeting please contact the Region 16 Chair.

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

DA 05-2336

August 22, 2005

WIRELESS TELECOMUNICATIONS BUREAU ACTION

REGION 16 (KANSAS) 700 MHz
PUBLIC SAFETY REGIONAL PLANNING COMMITTEE
ANNOUNCES MEETING

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee Chair announces that the next meeting of the Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will be held Thursday September 15th, 2005 from 1:00 p.m. – 3:00 p.m., in the Eisenhower State Office Building located at 700 SW Harrison, Topeka, Kansas.

The meeting of the Region 16 (Kansas) 700 MHz National Public Safety Regional Planning Committee will convene at 1:00 p.m. The purpose of this meeting is to continue developing a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, Emergency Management and Utility services.

All eligible public safety providers whose sole purpose or principal purpose is to protect the safety of life, health, or property in Region 16 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 new public safety spectrum in the 700 MHz band within Region 16 are encouraged to attend.

APPENDIX G

For further information about the meeting, please contact either the Region 16 Chair or the Region Vice-chair listed below.

Edwin Geer, Chair
700 SW Harrison, ESOB 7th Flr.
KDOT
Topeka, Kansas 66603
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Email: geer@ksdot.org

Captain Jason DeVore, Vice-Chair
2025 E. Iron
Salina, Kansas 67401
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Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

DA 06-985

May 5, 2006

WIRELESS TELECOMUNICATIONS BUREAU ACTION

REGION 16 (KANSAS) 700 MHz
PUBLIC SAFETY REGIONAL PLANNING COMMITTEE
TO HOLD MEETING

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee will hold its next meeting on Wednesday, June 21, 2006 from 1:00 p.m. – 3:00 p.m., in the Eisenhower State Office Building located at 700 SW Harrison, Topeka, Kansas.

The purpose of this meeting is to continue developing a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, Emergency Management and Utility services.

All eligible public safety providers whose sole purpose or principal purpose is to protect the safety of life, health, or property in Region 16 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 conversant with telecommunications technology should ensure that their respective agencies are represented by suitably conversant staff.

All interested parties wishing to participate in the planning for the use of public safety spectrum in the 700 MHz band within Region 16 are encouraged to attend. For further information about the meeting, please contact the Region 16 Chair listed below.

Edwin Geer, Chair
700 SW Harrison, ESOB 7th Floor
KDOT

APPENDIX G

Topeka, Kansas 66603
PH: 785-296-5948
FX: 785-296-0999
Email: Geer@ksdot.org

- FCC -

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PUBLIC NOTICE

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

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

DA 06-1912

September 22, 2006

WIRELESS TELECOMUNICATIONS BUREAU ACTION

REGION 16 (KANSAS) 700 MHz
PUBLIC SAFETY REGIONAL PLANNING COMMITTEE
ANNOUNCES MEETING

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee announces that its next meeting will be held on Wednesday, October 25th, 2006 from 10:00 a.m. to 3:00 p.m., at the Kansas Highway Patrol Training Center located at 2025 E. Iron, Salina, Kansas.

- The purpose of this meeting is to continue develop a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, and Emergency Management.

All eligible public safety providers whose sole purpose or principal purpose is to protect the safety of life, health, or property in Region 16 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 new public safety spectrum in the 700 MHz band are encouraged to attend. For further information about the meeting, please contact the Region 16 Chair listed below.

Edwin Geer, Chair
Kansas Department of Transportation

APPENDIX G

700 SW Harrison, ESOB 7th Floor
Topeka, Kansas 66603
(785) 296-5948
Geer@ksdot.org

- FCC -

APPENDIX G

July 2004

Publisher's Affidavit

I, Ann M. Garrison, being duly sworn declare that I am the **Advertising Services Coordinator** of THE SALINA JOURNAL, a daily newspaper published at Salina, Saline County, Kansas, and of general circulation in said county, which newspaper has been admitted to the mails as second class matter in said county, and continuously and uninterruptedly published for five consecutive years prior to first publication of attached notice, and that the **Quarterly Meeting** Notice has been correctly published in the entire issues of said newspaper one time, publication being given in the issue of **July 17** 20 **04**

Ann M Garrison

Subscribed and sworn to before me, this 20th day of July A.D. 20 04

Notary Public

Printer's Fee $ **18.30**

NOTARY PUBLIC - State of Kansas
WENDY CHROBAK
My Appt. Exp. 8-22-04

(Published in The Salina Journal July 17, 2004)

NOTICE

The Region 16 (Kansas) 700 MHz Regional Planning Committee announces that its next quarterly meeting will be held, Wednesday, July 21st, 2004 from 10:00 a.m. - 3:00 p.m., at the Kansas Highway Patrol meeting room located at 2019 E. Iron Ave., Salina, KS. (1t)

APPENDIX G

Oct 2004

AFFIDAVIT OF PUBLICATION

State of Kansas, Ellis County, ss:

Mary Karst

being first duly sworn, deposes and says:

That he/she is Advertising Manager of THE HAYS DAILY NEWS, a daily newspaper printed in the State of Kansas, and published in and of general circulation in Ellis County, Kansas, with a general paid circulation on a yearly basis in Ellis County, Kansas, and that said newspaper is not a trade, religious or fraternal publication.

Said newspaper is published daily, except Saturday, is published at least weekly 50 times a year; has been so published continuously and uninterrupted in said county and state for a period of more than five years prior to the first publication of said notice; and has been admitted at the post office of Hays in said county as second class matter.

That the attached notice is a true copy therof and was published in the regular and entire issue of said newspaper for 2 consecutive weeks, the first publication thereof being made as aforesaid on the 1st day of October, 2004, with subsequent publications being made on the following dates:

Oc 15,	2004	_____,	20__
_____,	20__	_____,	20__
_____,	20__	_____,	20__

Mary Karst

Subscribed and sworn to before me this 15th day of October, 2004.

Notary Public

My Appointment expires 5-28-05

Printer's Fee..... $28.40

Additional copies..... $____

Total Fee..... $28.40

(First published in The Hays Daily News October 1, 2004)

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee Chairs announce that the next meeting will be held Wednesday October 20th, 2004 from 10:00 a.m. to 3:00 p.m., at the Kansas Highway Patrol facility located at 1821 Front Street, Hays, Kansas. The purpose of this meeting is to continue developing a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, Emergency Management and Utility services.

(Last published in The Hays Daily News October 15, 2004)

Notary Exp. 5-28-05

[redacted]

APPENDIX G

Feb 2005

Publisher's Affidavit

I, Nicole Veatch, being duly sworn declare that I am the Classified Coordinator of THE SALINA JOURNAL, a daily newspaper published at Salina, Saline County, Kansas, and of general circulation in said county, which newspaper has been admitted to the mails as second class matter in said county, and continuously and uninterruptedly published for five consecutive years prior to first publication of attached notice, and that the Meeting Notice has been correctly published in the entire issues of said newspaper one time, publication being given in the issue of February 5 20 05

Nicole Veatch

Subscribed and sworn to before me, this 10th day of February A.D. 20 05

Notary Public

Printer's Fee $ 17.08

NOTARY PUBLIC - State of Kansas
WENDY CHROBAK
My Appt. Exp. 8-22-08

(Published in The Salina Journal February 5, 2005)
The Region 16 (Kansas) 700 MHz Regional Planning Committee announces that its next quarterly meeting will be held Wednesday, February 9th, 2005, starting at 10:00A.M., at the Kansas Highway Patrol meeting room located at 2019 E. Iron Ave., Salina, KS. (1t)

APPENDIX G

Sept 2005

AFFIDAVIT OF PUBLICATION

STATE OF KANSAS, SHAWNEE COUNTY

Topeka Capital-Journal

700 MHZ REGIONAL PLANNING COMM
ROOM 751S
900 SW JACKSON
TOPEKA KS 66612

REFERENCE: 51161331
0509815908 No392PublishedintheT

Linda J. Willey, being first duly sworn, deposes and says: That she is the Legal Clerk of the TOPEKA CAPITAL-JOURNAL, a daily newspaper printed in the State of Kansas, and published in and of general circulation in SHAWNEE County, Kansas, with a general paid circulation on a monthly basis in SHAWNEE County, Kansas, and that said newspaper is not a trade, religious or fraternal publication.

Said newspaper is a daily published at least 50 times a year; has been so published continuously and uninterruptedly in said county and state for a period of more than five years prior to the first publication of said notice; and has been admitted at the post office of Topeka in said County as second class matter.

That the attached notice is a true copy thereof and was published in the regular and entire issues of said newspaper.

PUBLISHED ON: 09/10

No. 392

(Published in the Topeka Capital Journal Sat., Sept. 10, 2005)

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee Chairs announce that the next meeting will be held Thursday September 15th, 2005 from 1:00 p.m. - 3:00 p.m., in the Eisenhower State Office Bldg located at 700 SW Harrison, Topeka, Kansas. The purpose of this meeting is to continue developing a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including: Public Safety, Public Health, Emergency Management and Utility services.

APPENDIX G

Receipt of Payment

9:07 AM

June 06

Topeka Capital-Journal

331
HZ REGIONAL PLANNING
67714
W JACKSON
4 751S
KA

Credit Card:
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)6	Paytype:	WP	Issues:	1
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0.00 Ad #: 2046272
48.64 by: Waiting for Payment
48.64 Balance: 0.00

Receipt No:

Customer Copy

No. 786

(Published in the
Topeka Capital Journal
Sat., June 17, 2006)

The Region 16 (Kansas) 700 MHz Public Safety Regional Planning Committee Chairs announce that the next meeting will be held Wednesday June 21st, 2006 from 1:00 p.m. until 4:00 p.m., in the 4th floor conference room of the Eisenhower State Office Building located at 700 SW Harrison in Topeka, Kansas. The purpose of this meeting is to continue developing a statewide (Kansas) plan to meet the needs of the 700 MHz spectrum users including Public Safety, Public Health, and Emergency Management

Ad shown is not actual print size

93 Words

Ad Size 1.00 x 2.69 Inches

Date:

Topeka Cap. Journal
for meeting in June 2006 in Topeka

APPENDIX H

REGION 16 (Kansas) BYLAWS

ARTICLE I

NAME & PURPOSE

1.1 Name and Purpose. The name of this Region shall be Region 16. Its primary purpose is to foster cooperation, planning, development of the regional plan and the implementation of the plan in the 700 MHz Public Safety Band.

ARTICLE II

MEMBERS

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

2.1 Number, Election and Qualification. The Regional Committee shall have two classes of members, "voting members" and "non-voting members, as approved by the Regional Planning Committee.

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 others interested in furthering the goals of public safety communications.

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

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 or 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 Meetings. The bi-annual meeting of the members shall be held at a specified location on the date every six months or if that date is a legal holiday in the place where the

meeting is to be held, then at the same hour on the next succeeding day not a legal holiday. If a bi-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 bi-annual meeting, and in such case all references in these bylaws, except in this Section 2.6, to the bi-annual meeting of the members shall be deemed to refer to such special meeting. Any such special meeting shall be called and notice shall be given as provided in Section 2.7 and 2.8.

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

2.8 Call and Notice.

A. Bi-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 or (ii) 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 this 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.

2.9 Quorum. At any meeting of the members, a quorum consist of a majority of the officers and any number of voting members present or available conference call. 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 not 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 two weeks 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 meetings. Unless otherwise specifically limited by their terms, such proxies shall entitle the holders thereof to vote at any adjournment of the meeting by the proxy shall terminate after the final adjournment of such meeting.

APPENDIX H

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 regions 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 as needed.

3.3 Tenure. The officers shall each hold office 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 chairman during the absence of the chairman or in the event of his or her inability to act.

3.5 Treasurer. The treasurer shall be the chief financial officer and the chief accounting officer of the Regional Committee. The treasurer shall be in charge of its financial affairs, funds, and valuable papers and shall keep full land accurate records thereof.

3.6 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.

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

3.8 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.

3.9 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 terms, 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 become 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 require action by the voting members. Bylaws should be reviewed annually or as needed by the RPC.

ARTICLE V

DISSOLUTION

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

ARTICLE VI

RULES OF PROCEDURES

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 I

700 MHz Pre-Assignment Rules

Introduction

A process for doing the initial block assignments of 700 MHz channels before details of actual system deployments is required. In this initial phase, there is little actual knowledge of what specific equipment is to be deployed and where the sites will be. As a result, a high level simplified 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 of each applicant. For Public Safety entities this will normally be a geographically defined area such as city, county or by a data file consisting of line segments creating a polygon that encloses the defined 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.

For co-channel assignments, the 40dBμ 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 low density. The interfering co-channel 15 dBμ contour will be allowed to touch but not overlap the 40 dBμ contour of the system being evaluated. All contours are (50,50). 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.

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

7.4.1.1 Discussion
The FCC limits the maximum field strength to 40 dB relative to 1μV/m (customarily denoted as 40dBμ). It is assumed that this limitation will be applied similarly to the way it is applied in the 821-824/866/869 MHz band. That is, a 40 dBμ field strength can be deployed up to a defined distance from 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 as the potential for interference from CMRS infrastructure demands that public safety systems have adequate margins for reliability in the presence of interference. The value of 40 dBμ corresponds to a signal of -92.7 dBm, received by a half-wavelength dipole (λ/2) antenna. The thermal noise floor for a 6.25 kHz 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.

APPENDIX I

Allowing for a 3 dB reduction in the available margin due to CMRS OOBE noise lowers the reliability and/or the channel performance of Public Safety systems. TIA TR8 made this allowance during the meetings in Mesa, AZ, January 2001. In addition, there are various channel bandwidths with different performance criteria and 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. There would be a single co-channel source, but potentially several adjacent or alternate channel sources involved.

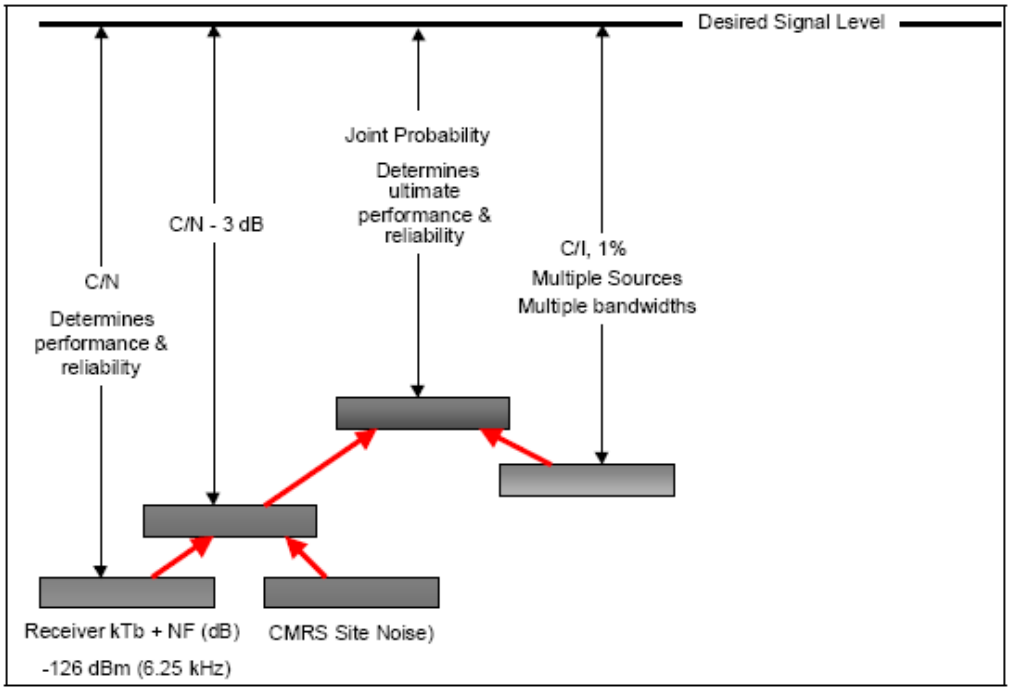

Figure 1 - Interfering Sources Create A “Noise” Level Influencing Reliability

It is recommended that co-channel assignments limit the C/I at the edge (worst case mile) be sufficient to limit that interference to <1%. A C/I ratio of 26.4 dB plus the required capture value required to achieve this goal. A 17 - 20 dB C/N is required to achieve channel performance. Table shows estimated performance considering the 3 dB noise floor rise at the 40 dBμ signal level. Performance varies due to the different Cf/N requirements of the different modulations and channel bandwidths. These values are appropriate for a mobile on the street, but are considerably short to provide reliable communications to portables inside buildings.

APPENDIX I

Comparison of Joint Reliability for various configurations				
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)	**94.2%**	**94.2%**	**90.4%**	**75.8%**
40 dBu = -92.7 dBm @ 770 MHz				

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

To analyze the impact of requiring portable in building coverage, several scenarios are presented. The different scenarios involve a given separation from the desired sites. Then the impact of simulcast is included to show that the 40 dBμ must be able to fall outside the edge of the service area. From the analysis, recommendations of how far the 40 dBμ extensions should be allowed to occur are made.

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 OOBE is suppressed to TIA's most recent recommendation and the "site isolation" is maintained at 65 dB minimum.

• The 40 dBμ 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

APPENDIX I

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
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 that simulcast is required to achieve public safety levels of reliability. The difference in performance margin requirements would require more sites and closer site-to-site separation for wider bandwidth channels. 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 ≈ 240 Watts (ERPd)

APPENDIX I

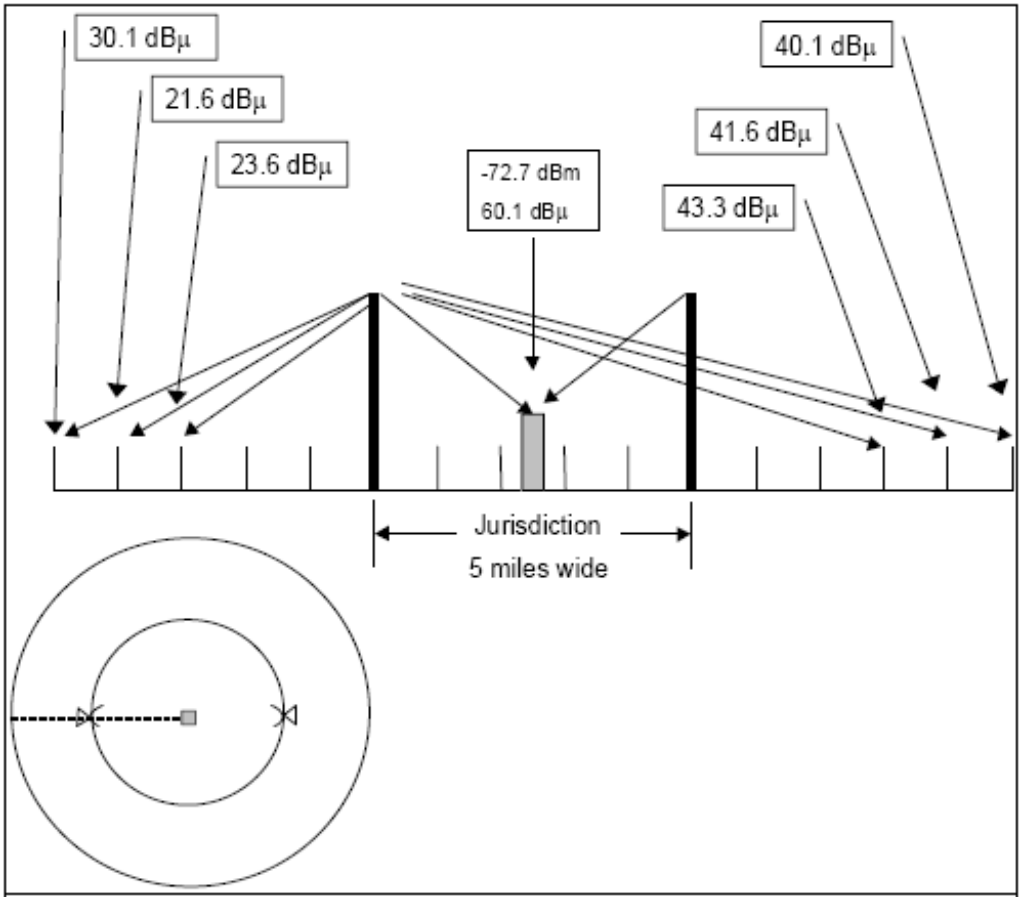

Figure 2 - Field Strength From Left Most Site.

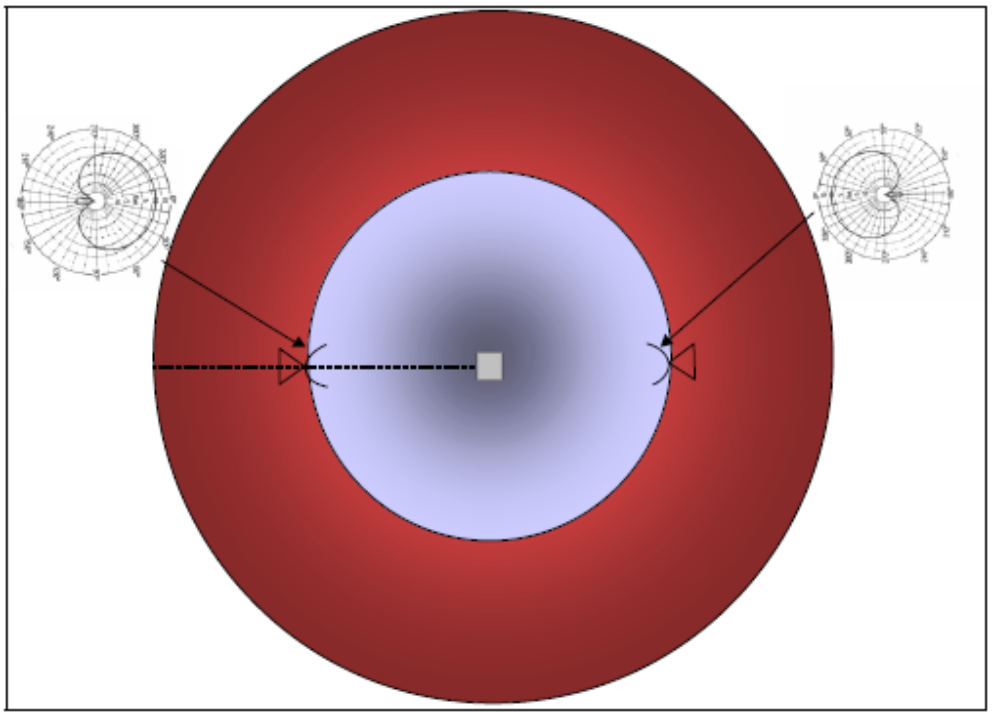
Figure 3 - Antenna Configuration Required To Limit Field Strength Off “Backside”

APPENDIX I

Figure 2 is for an urbanized area with a jurisdiction of 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 utilizing direction 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 composite field strength of approximately 40 dBμ. 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 backscatter 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 field strength 5 miles beyond in excess of 44 dBμ. 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.

The down tilting of antennas to control the 40 dBμ is not practical as the difference in angular discrimination from a 200-foot tall tower at 2.5 miles and 10 miles is approximately 0.6 degrees.
Tables 3 and 4 represent the same configuration, but for less dense buildings. In these cases, the distance to extend the 40 dBm can be determined from Table Z. Recommendations are made in Table 6

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 2.5 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%

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

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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 2.5 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.

Overshoot Distance (mi)	Field Strength (dBμ)	20 dB F/B (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

This allows the overshoot to be 11 miles so the extension of the 40 dbm can be 4 miles for suburbanized territory. For the more rural territory, the limit is the signal strength off the back of the antenna. So the result is that for various types of urbanized areas the offset of the 40 dbm should be:

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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 Dbμ Field Strength

The 40 dBμ can then be constructed based on the defined service area without having to perform an actual prediction. Since the 40 dBμ is beyond the edge of the service area, some relaxation in the level of I is reasonable. Therefore a 35 dB ration is recommended and is consistent with what is currently being licensed in the 821-824/866-869 MHz Public Safety band.

Co-Channel Recommendation

• Allow the constructed 40 dBμ (50,50) to extend beyond the edge of the defined service area by the distance indicated in Table 6.
• Allow the Interfering 15 dBμ (50,50) to intercept but not overlap the 40 dBμ contour.

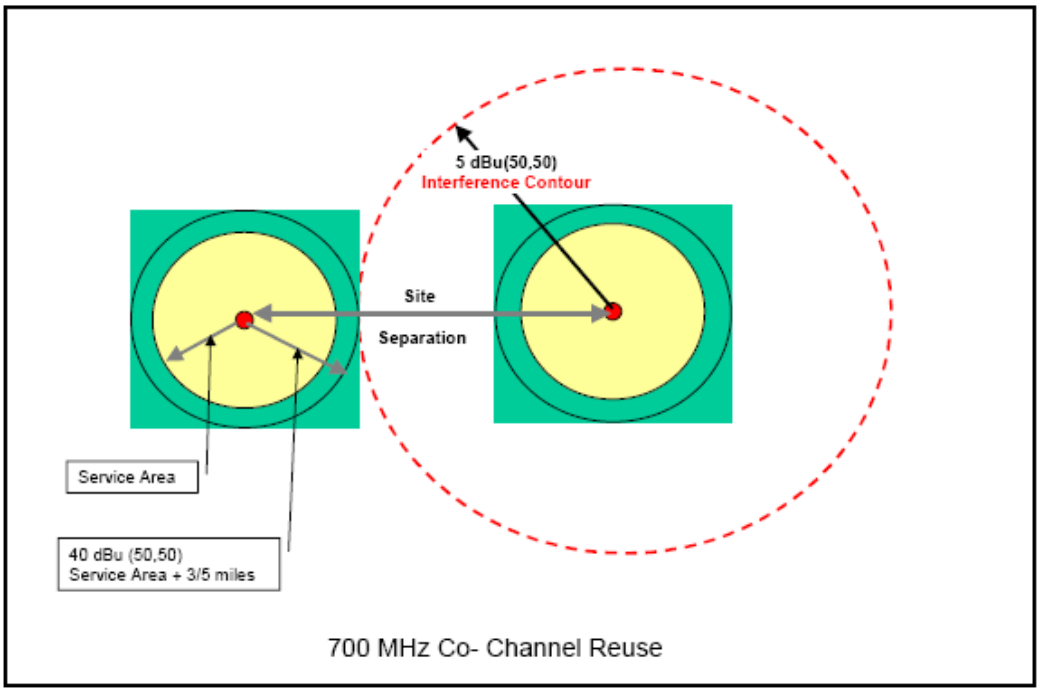

Figure 4 - Co-Channel Reuse Criterion

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 OOBE.

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. ACP defines the energy in a measured bandwidth that is typically wider than the receiver. As a result, the FCC values are optimistic at very close spacing and somewhat pessimistic at wider spacing, as the typical receiver filter is less than the channel bandwidth.

In addition, as a channel bandwidth is increased, the total noise is allowed to rise, as it is initially defined in a 6.25 kHz channel bandwidth. However, the effect is diminished at very close spacing as the noise is rapidly falling off. At greater spacing, the noise is essentially flat and the receiver’s filter limits the noise to the specified 3 dB 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 receiver muting. Therefore at least 17 dB plus the margin for keeping the interference below 1% probability requires a total margin of 43.4 dB. However, this margin would be at the edge of the service area and the 40 dBμ 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 ≥ 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 ≥ 65 dB into a 6.0 kHz channel bandwidth and leaving room for a migration from Phase 1 to Phase 2, allows

for making the simplifying assumption that 65 dB ACCPR is available for both adjacent 25 kHz block.

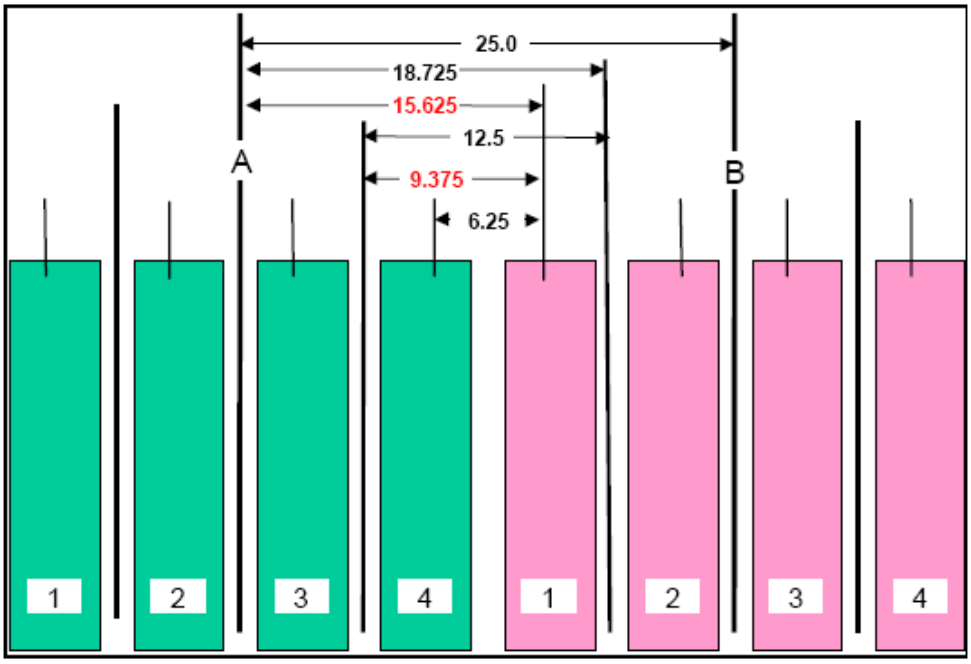

Figure 5, Potential Frequency Separations

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

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

Table 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 Phase 2 narrowband 6.25 kHz channel. If system designers keep this consideration in mind and move the edge 6.25 kHz channels inward on their own systems, then a constant value of 65 dB ACCPR can be applied across all 25 kHz channels regardless of what is eventually deployed.

For other blocks, it must be assumed that transmitter filtering in addition to transmitter performance improvements with greater frequency separation will further reduce the ACCPR.

Therefore it is recommended that a consistent value of 65 dB ACCPR be used for coordinating adjacent 25 kHz channel blocks. Rounding to be conservative due to the possibility of multiple sources allows the “I” contour to be approximately 20 dB above the 40 dBμ contour, 60 dBμ.

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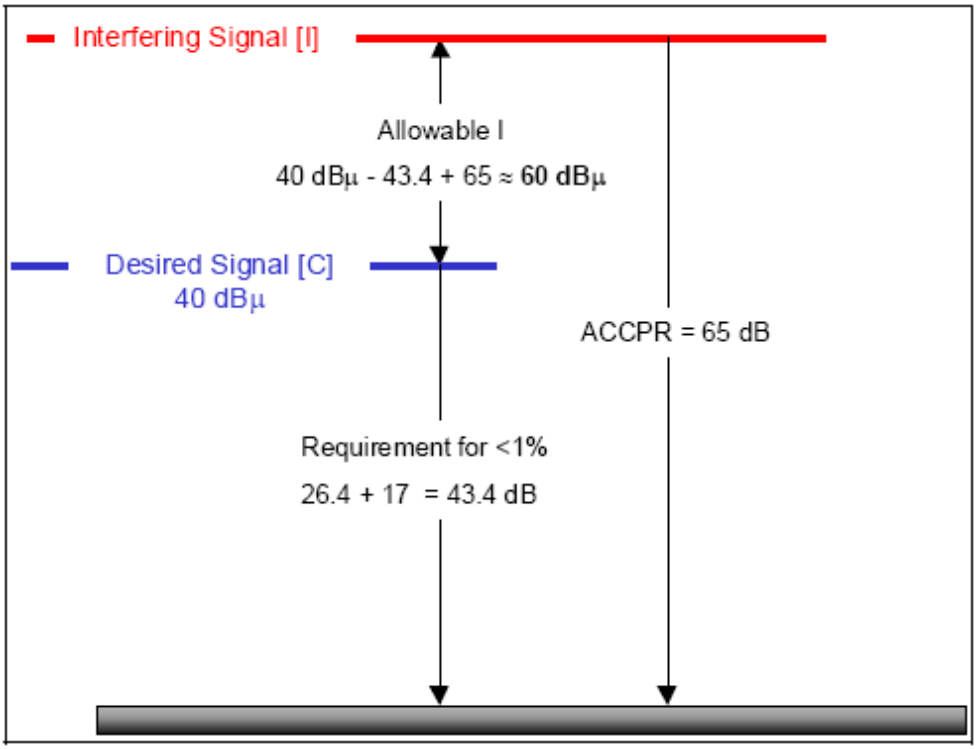

Figure 6 - Adjusted Adjacent 25 kHz Channel Interfering Contour Value

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

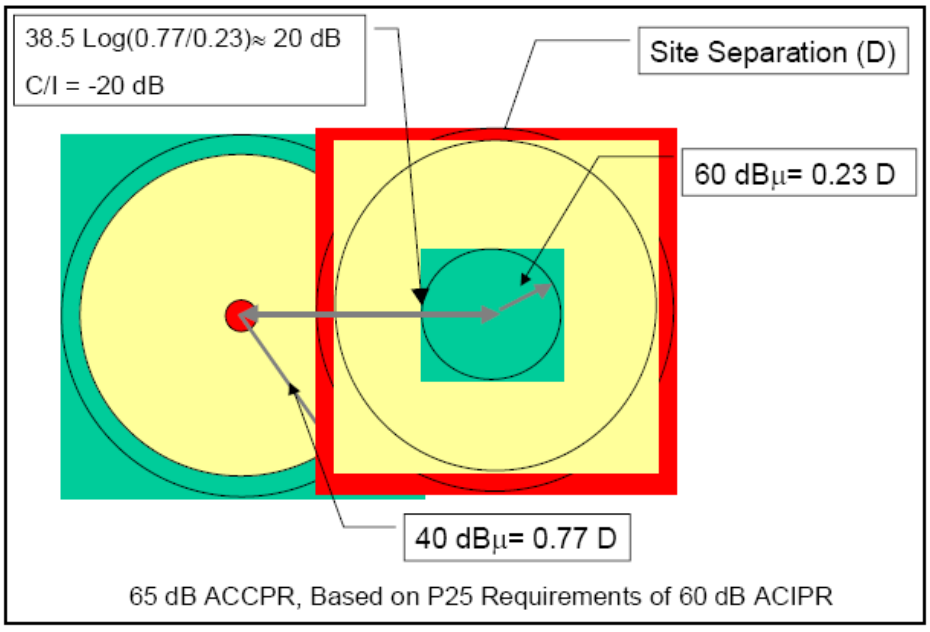

Figure 7 - Example Of Adjacent/Alternate Overlap Criterion

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This simple method is only adequate for presorting large blocks 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 ERP's and HAAT's
- 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.

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, a 10% Interference is specified; the C/I implies 90% probability of successfully achieving the desired ratio. At 1% interference, means that there is a 99% probability of achieving the desired C/I.

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

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, $Z = 1.28$.

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

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

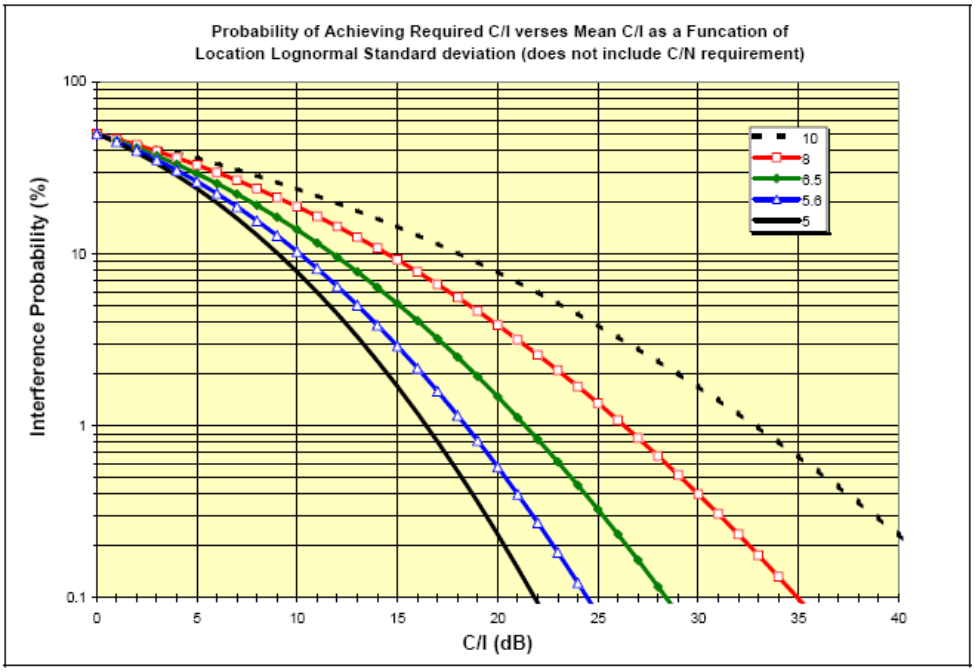

Figure A1, Probability Of Achieving Required C/I As A Function Of Location Standard Deviation

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 values 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

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TIA recommended value is 5.6 dB. This provides the additional flexibility necessary to complete the 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 is a less degradation of the 90%.

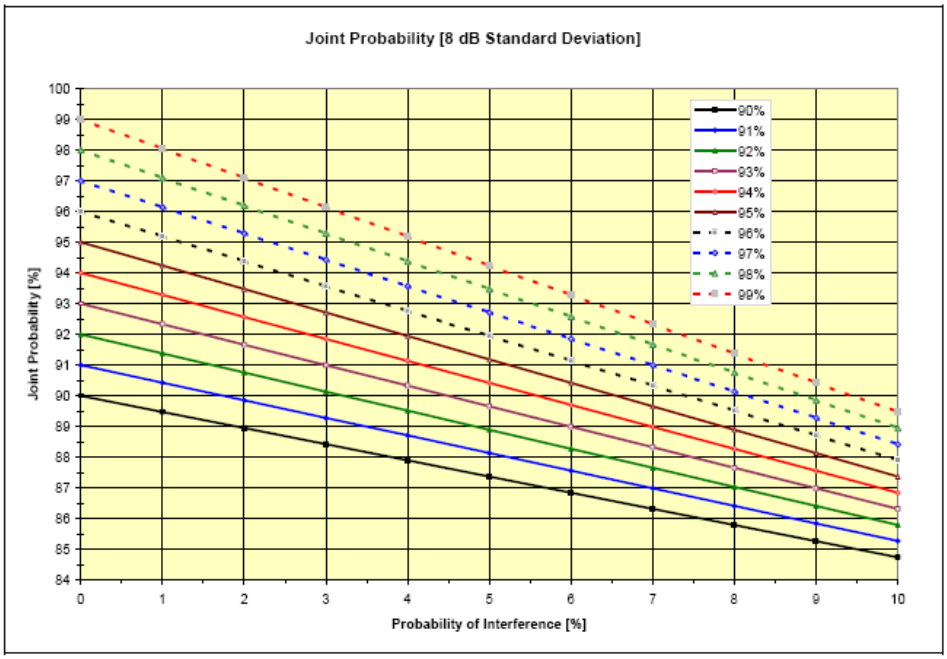


Figure A2 - Effect Of Joint Probability On The Composite Probability

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 J

DTV Transition
Frequency Availability through the DTV Transition

DTV transition continues to be a topic discussed across the country. Region 16 is fortunate to be relatively unencumbered with regard to primary 700 MHz licensee broadcasters operating high power analog TV stations. Currently, K64BS Channel 64 operates in the City of Concordia in Cloud County, K66CD has a station in the City of Phillipsburg in Phillips County, K69DB is operational in the City of Hoxie in Sheridan County, and in the City of Pittsburg has a new station broadcasting on channel 69.

4.1.1.1.1 On August 14, 1996, the FCC released a* Sixth Further Notice of Proposed Rule Making *in the digital television (DTV) proceeding. A portion of the spectrum recovered from TV channels 60-69 when DTV is fully deployed "could be used to meet public safety needs."[3] By Congressional direction in the Balanced Budget Act of 1997, the FCC reallocated 24 MHz of spectrum to Public Safety services in the 764-776 MHz and 794-806 MHz bands. The statute required the FCC to establish service rules, by September 30, 1998, in order to start the process of assigning licenses. The rules that the FCC established by September 30, 1998, "provided the minimum technical framework necessary to standardize operations in this spectrum band, including, but not limited to: (a) establishing interference limits at the boundaries of the spectrum block and service areas; (b) establishing technical restrictions necessary to protect full-service analog and digital television service during the transition to digital television services; (c) permitting public safety licensees the flexibility to aggregate multiple licenses to create larger spectrum blocks and service areas, and to disaggregate or partition licenses to create smaller spectrum blocks or service areas; and (d) ensuring that the new spectrum will not be subject to harmful interference from television broadcast licensees" [4].

[3] Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, MM Docket No. 87-268, *Sixth Further Notice of Proposed Rule Making*, 11 FCC Rcd 10,968, 10,980 (1996) (*DTV Sixth Notice*).

4 FCC 98-191, 1st R&O and 3rd NPRM on WT Docket No. 96-86 Operational & Technical Requirements or the 700 MHz Public Safety Band,
para.4.

In April 1997, the FCC assigned a second 6 MHz block of spectrum to each license (or permit to construct) holders of full power, analog, television broadcast station (NTSC) in order to construct a digital television station (DTV). Secondary low power television stations (LPTV), secondary translators and boosters (TX), mutually exclusive applications for new stations, and application filed after a cut-off date did not receive a second 6 MHz allotment for DTV. The FCC established about a 10 year timeline for those stations with a DTV assignment to construct a DTV station, cease NTSC transmissions, and return one of the two 6 MHz blocks of spectrum to the FCC. Target date for the end of analog television (NTSC) transmission was set for December 31, 2006.

Congress provided several market penetration loopholes (>85% households served, all 4 major networks converted, etc) allowing NTSC operations to continue past the December 31, 2006 date. While there are over 100 NTSC full power stations in this band, there are also about 12 DTV assignments. The DTV assignments might continue operations past the December 31, 2006 date for two reasons. 1) They must find a suitable channel below channel 60 to move to, which may be their own NTSC assignment. They may not be able to find another allocation until other NTSC stations

have ceased operations and returned a channel below 60 to the FCC. Or, 2) their license does not expire until after 2006 (most are licensed into 2007 or 2008).

Protection of Public Safety from future TV/DTV Stations

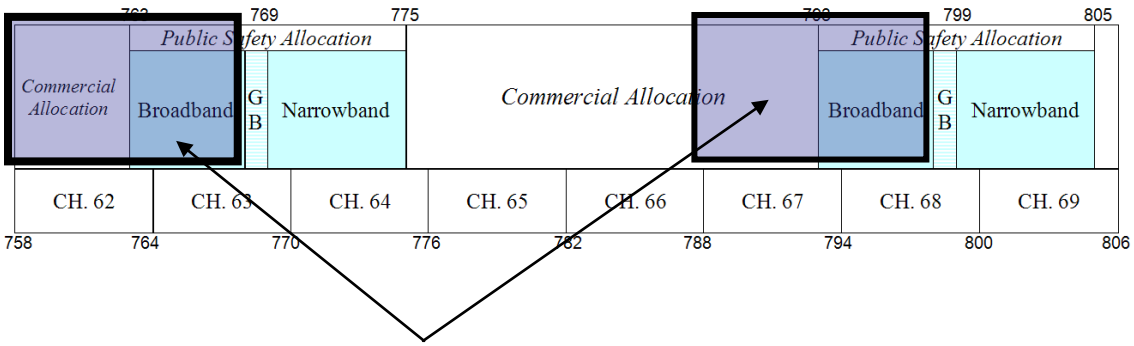
Public safety base and mobile operations must have a safe distance between the co-channel or adjacent TV and DTV systems. This typically means that a co-channel and adjacent channel base and mobile system cannot operate in areas where TV stations already exist. The public safety systems that will operate in the 700 MHz band for some locations in the U.S. and its possessions must wait until the transition period is over and the TV/DTV stations have moved to other channels before beginning operations. In other areas, channels will be available for public safety operations. During the transition period, public safety stations must be acutely aware of the TV allocations for both TV and DTV stations. The FCC wants the number of situations where the public safety licensee has to coordinate its station with the existing TV stations kept to a minimum. The Commission's decisions in the reallocation of spectrum to DTV implemented two requirements, which will help public safety systems to protect TV/DTV stations and reduce the number of coordination's. The first requirement is that full power UHF-TV stations can no longer apply for channels 60-69 or modifications in channels 60-69, which would increase the stations' service areas, which creates a known environment for public safety licensees. The second requirement is that since only existing TV station licensees can apply for DTV channels, the applicants and their proposed locations are already known.

Also, the low power TV stations and translators already on channels 60-69 are secondary and must cease operations if they cause harmful interference when a primary service, like land mobile, comes into operation. The secondary Low Power TV stations already on channels 60-69 cannot apply for the new Class A protection status.

Spectrum Overview

700 MHz Public Safety Band - 24 megahertz of spectrum

FIGURE 2: REVISED 700 MHZ BAND PLAN FOR PUBLIC SAFETY SERVICES



Joint Nationwide BB

APPENDIX J

NCC / NPSTC Standard Channel Nomenclature for the Public Safety Interoperability Channels

Table 2: Sorted by band in Frequency or Channel Order

The FCC designated 764-776 MHz (TV Channels 63 and 64) for base-to-mobile transmissions and 794-806 MHz (TV Channels 68 and 69) for mobile-to-base communications. In addition, base transmit channels in TV Channel 63 are paired with mobile channels in TV Channel 68 and likewise that base channels in TV Channel 64 are paired with mobile channels in TV Channel 69. This provides 30 MHz separations between base and mobile transmit channel center frequencies. This band plan was suggested because of the close proximity of TV Channels 68 and 69 to the 806-824 MHz band, which already contains the transmit channels for mobile and portable radios (base receive).

Mobile transmissions are allowed on any part of the 700 MHz band, not just the upper 12 MHz. This will facilitate direct mobile-to-mobile communications (*i.e.*, not through a repeater) that are often employed at the site of an incident, where wide area communications facilities are not available or desired. Allowing mobile transmissions on both halves of a paired channel is generally consistent with FCC rules governing use of other public safety bands.

Non-uniform TV Channel Pairing

There are currently geographical areas where, either licensed or otherwise protected full-service analog or new digital, television stations are currently authorized to operate on TV Channels 62, 63, 64, 65, 67, 68, and 69. During the DTV transition period, an incumbent TV station occupying one or more of the four Public Safety channels (63, 64, 68, 69) or the three adjacent channels (62, 65, 67) may preclude pairing of the channels in accordance with the band plan defined above. Therefore, to provide for cases where standard pairing is not practicable during the DTV transition period, the FCC will allow the RPCs to consider pairing base-to-mobile channels in TV Channel 63 with mobile-to-base channels in TV Channel 69 and/or base-to-mobile channels in TV Channel 64 with mobile-to-base channels in TV Channel 68. Because such non-standard channel pairing may cause problems when the band becomes more fully occupied, the FCC expects the RPCs to permit such non-standard channel pairing only when absolutely necessary, and the FCC may require stations to return to standard channel pairing after the DTV transition period is over. However, the FCC will not permit non-standard channel pairing on the nationwide interoperability channels in the 700 MHz band because of the need for nationwide uniformity of these channels.

At least three issues must be considered before deciding upon non-uniform channel pairing:

1) Preliminary analysis, looking at current incumbent TV stations, shows few geographic areas where non-uniform pairing allows early implementation of 700 MHz systems. As DTV Transition progresses, and TV stations vacate the band, this situation might change.

2) If interoperability channels must be uniform, operation on I/O channels will be blocked until all incumbent TV stations are cleared, even though General Use channels may be implemented earlier.

3) If I/O channels must follow uniform pairing, and general use & reserve channels can be implemented using non-uniform pairing, narrowband voice subscriber equipment must operate on 3 different channel pairings - 39 MHz (764-767 paired with 803-806 MHz), 30 MHz, and 21 MHz (773-776 paired with 794-797 MHz). No vendors have volunteered to build equipment & systems for non-uniform pairing, yet.

TV/DTV Protection

During the DTV Transition period, public safety must consider all co-channel and adjacent channel TV and DTV stations within about a 160 mile radius. For public safety channel pair 63/68, public safety must consider six TV/DTV channels - co channels 63 and 68, as well as, adjacent channels 62, 64, 67, and 69.

For public safety channel pair 64/69, public safety must consider five TV/DTV channels, co-channels 64 and 69, as well as adjacent channels 63, 65, and 68.

It may only take one TV/DTV station to block operations on one, the other, or both public safety channel pairs. For a public safety system at 500 watts ERP and 500 ft HAAT, co-channel TV stations can block a 120 mile radius and adjacent channel TV/DTV stations can block a 90 mile radius.

Since base stations transmitters are located only on channels 63 and 64, LMR mobile only TV/DTV protection spacing on channels 68 and 69 may be shorter than LMR base TV/DTV protection on channels 63 & 64.

TV/DTV Protection Criteria

Public safety applicants can select one of three ways to meet the TV/DTV protection requirements: (1) utilize the geographic separation specified in the 40 dB Tables of 90.309; (2) submit an engineering study to justify other separations which the Commission approves; or (3) obtain concurrence from the applicable TV/DTV station(s).

90.309 40 dB D/U Tables

The FCC adopted a 40 dB desired (TV/DTV) to undesired (LMR) signal ratio for co-channel operations and a 0 dB desired/undesired (D/U) signal ratio for adjacent channel operations. The D/U ratio is used to determine the geographic separation needed between public safety base stations and the Grade B service contours of co-channel and adjacent channel TV/DTV stations. The D/U signal ratio is used to determine the level of land mobile signals that can be permitted at protected fringe area TV receiver locations without degrading the TV picture to less than a defined picture quality. In other words, the D/U signal ratio indicates what relative levels of TV and land mobile signals can be tolerated without causing excessive interference to TV reception at the fringe of the TV service area.

Desired and undesired contours are not quite the same thing. Desired analog TV contours are defined as F(50,50), meaning coverage is 50% of the places and 50% of the time. Undesired land mobile or interference contours are defined as F(50,10). For Digital TV,

the desired contours are defined as F(50,90), while the undesired land mobile contour are still F(50,10).

Land mobile and analog TV services have successfully shared the 470-512 MHz band. (TV Channels 14-20) within a 50 mile radius of eleven major cities since the early 1970's based upon providing a signal ratio of at least 50 dB between the desired TV signal and undesired co-channel land mobile signal (D/U signal ratio) at a hypothetical 88.5 km (55 mi) Grade B service contour and an adjacent channel D/U signal ratio of 0 dB at the same hypothetical Grade B service contour. These separation distances also protected the land mobile systems from interference from the TV stations. In 1985, recognizing that 50 dB D/U was too conservative, the FCC proposed to expand land mobile/TV sharing to other TV channels and proposed that the geographic separation requirements for co-channel operations be based on a D/U signal ratio of 40 dB rather than 50 dB. That proceeding was put on hold pending completion of the DTV proceeding, which has now been completed. In the 470-512 MHz band, the FCC also relied on minimum separation distances based on the various heights and powers of the land mobile stations (HAAT/ERP separation tables) to prevent harmful interference.

Since this simple, yet conservative, method was successful, the FCC decided to use this same method, the 90.309 HAAT/ERP Separation Tables, to administer LMR to TV/DTV receiver protection criteria for the services in the 700 MHz band.

Co-channel land mobile base station transmitters are limited to a maximum signal strength at the hypothetical TV Grade B contour 40 dB D/U below desired 64 dBu F(50,50) analog TV signal level, or 24 dBu F(50,10). The FCC adopted a 0 dB D/U signal ratio for adjacent channel operations. Adjacent channel land mobile transmitters will be limited to a maximum signal of 64 dBu F(50,10) which is 0 dB D/U below the TV Grade B signal of 64 dBu F(50,50) at the TV station Grade B contour of 88.5 km (55 miles). A typical TV receiver's adjacent channel rejection is at least 10-20 dB greater than this level, which will further safeguards TV receivers from land mobile interference.

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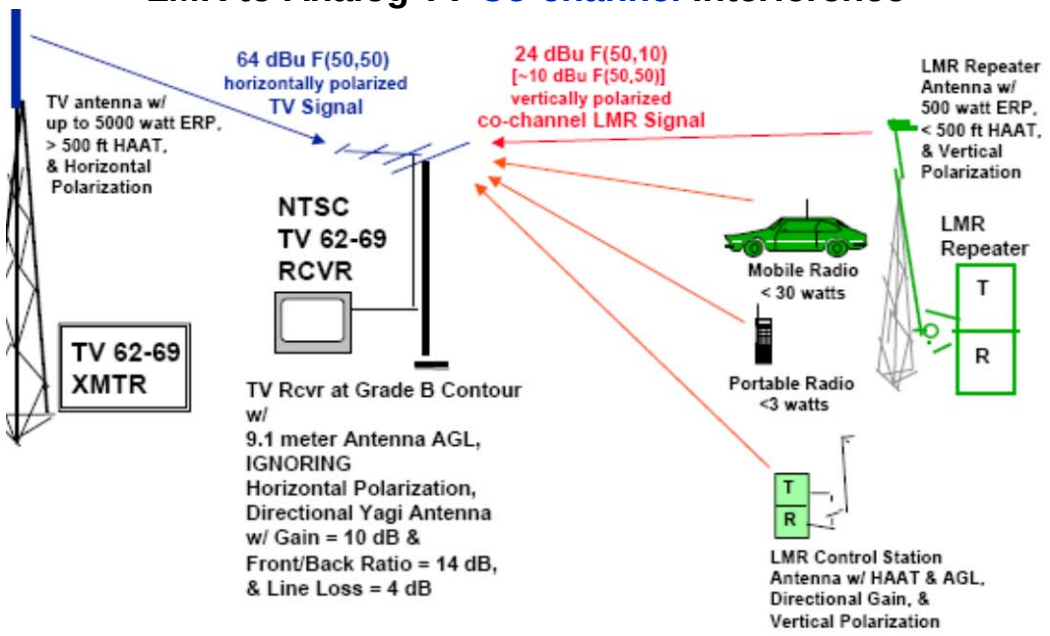
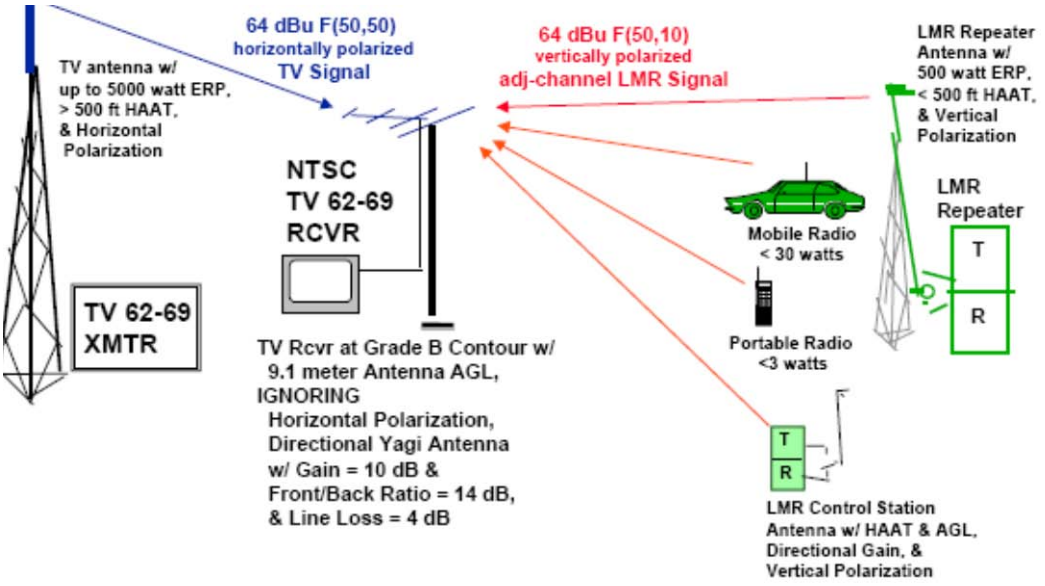
NCC / NPSTC Standard Channel Nomenclature for the Public Safety Interoperability Channels

Table 2: Sorted by band in Frequency or Channel Order

LMR to Analog TV Co-channel Interference



LMR to Analog TV Adj-channel Interference



The equivalent ratios for a DTV station's 41 dB F(50,90) desired field strength contour are land mobile 17 dB F(50,10) contour for co-channel and land mobile - 23 dB F(50,10) contour for adjacent channel.

The Tables to protect TV/DTV stations are found in Section 90.309 of the Commission's rules. These existing Tables cover co-channel protection based on a 40 dB D/U ratio

using the separation methods described in Section 73.611 of the Commission's rules for base, control, and mobile stations, and for adjacent channel stations for base stations based on a 0 dB D/U ratio

.

However, the original considerations in 470-512 MHz band under Section 90.309 were different in that mobiles were limited in their roaming distance from the base station (less than 30 miles) and mobiles were on the same TV channel as the base station.

Control and mobile stations (including portables) are limited in height (200 ft for control stations, 20 ft for mobiles/portables) and power (200 watts ERP for control stations, 30 watts for mobiles, 3 watts for portables). Mobiles and control stations shall afford protection to co-channel and adjacent channel TV/DTV stations in accordance with the values specified in Table D (co-channel frequencies based on 40 dB protection for TV and 17 dB for DTV) in § 90.309.

Control stations and mobiles/portables shall keep a minimum distance of 8 kilometers (5 miles) from all adjacent channel TV/DTV station hypothetical or equivalent Grade B contours (adjacent channel frequencies based on 0 dB protection for TV and -23 dB for DTV). This means that control and mobile stations shall keep a minimum distance of 96.5 kilometers (60 miles) from all adjacent channel TV/DTV stations.

Since operators of mobiles and portables are able to move and communicate with each other, licensees or coordinators must determine the areas where the mobiles can and cannot roam in order to protect the TV/DTV stations, and advise the mobile operators of these areas and their restrictions.

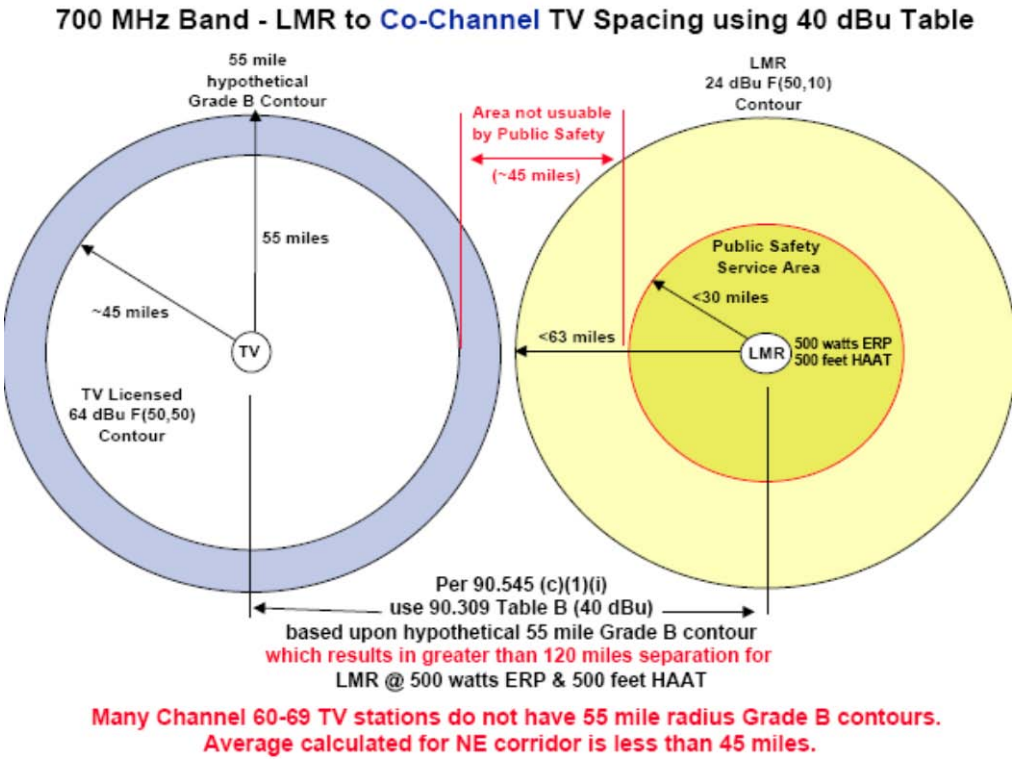
Engineering Analysis

Limiting TV/land mobile separation to distances specified in the 40 dB HAAT/ERP Separation Tables found in 90.309 may prevent public safety entities from fully utilizing this spectrum in a number of major metropolitan areas until after the DTV transition period ends. Public safety applicants will be allowed to submit engineering studies showing how they propose to meet the appropriate D/U signal ratio at the existing TV station's authorized or applied for Grade B service contour or equivalent contour for DTV stations instead of the hypothetical contour at 88.5 km.

APPENDIX J

NCC / NPSTC Standard Channel Nomenclature for the Public Safety Interoperability Channels

Table 2: Sorted by band in Frequency or Channel Order

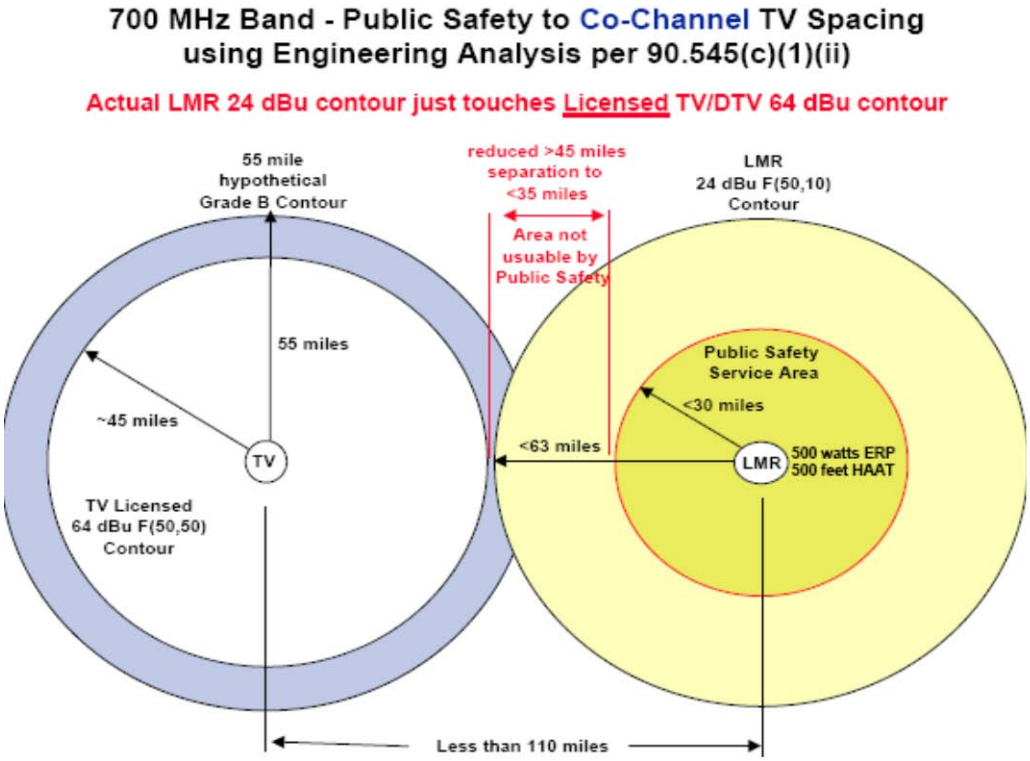


This would permit public safety applicants to take into account intervening terrain and engineering techniques such as directional and down-tilt antennas in determining the necessary separation to provide the required protection. Public safety applicants who use the engineering techniques must consider the actual TV/DTV parameters and not base their study on the 88.5 km hypothetical or equivalent Grade B contour. If land mobile interference contour does not overlap the TV Grade B contour (or DTV equivalent), then engineering analysis may be submitted to the FCC with the application.

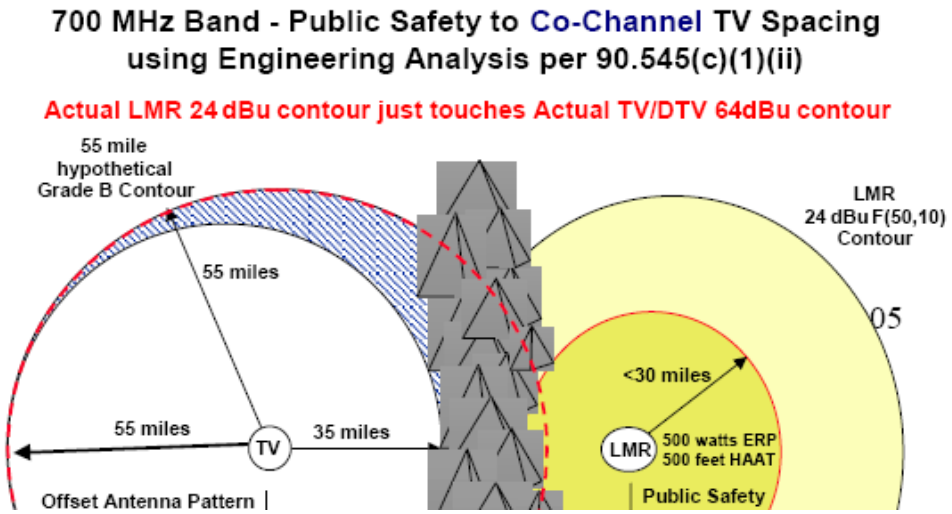
APPENDIX J

NCC / NPSTC Standard Channel Nomenclature for the Public Safety Interoperability Channels

Table 2: Sorted by band in Frequency or Channel Order



This method is most useful with lower power TV stations whose Grade B contours are much smaller than the hypothetical 55 mile (88.5 km) Grade B contour or have directional patterns. Note that 200 ft AGL limitations on 700 MHz control stations is much higher than the 100 ft AGL limitation used at UHF. Limiting control station antenna height and/or ERP may greatly reduce land mobile to TV contour spacing.



Also, note that analysis for TV/DTV receivers uses 30 ft (10 m) antenna height whereas, analysis for land mobile subscribers uses about a 6 ft (2m) antenna height.

TV/DTV Short-spacing

Public safety applicants will also be allowed to "short-space" even closer if they get the (written) approval of the TV stations they are required to protect. Public safety applicants need to determine the station's intended market area vs its hypothetical Grade B contour area. Alternately, the TV/DTV station may be short spaced against another TV/DTV station, limiting their area of operation, but does not affect LMR operations.

Instead of each agency negotiating with a TV/DTV station individually, they may want to combine into a single group or committee and negotiate together.

TV/DTV Height Adjustment Factor

In order to protect certain TV/DTV stations which have extremely large contours due to unusual height situations, such as a television station mounted on top of Mount Wilson near Los Angeles, California, the FCC incorporated an additional height adjustment factor which must be used by all public safety base, control and mobile stations to protect these few TV/DTV stations and afford the land mobile stations the necessary protection from the TV/DTV stations. The equation necessary to calculate the additional distance from the hypothetical or equivalent Grade B contour is found in the rules section 90.545(c)(2)(iii).

APPENDIX K

NCC / NPSTC Standard Channel Nomenclature for the Public Safety Interoperability Channels

Table 2: Sorted by band in Frequency or Channel Order

Table of Interoperability Channels
For Specific Uses/Services

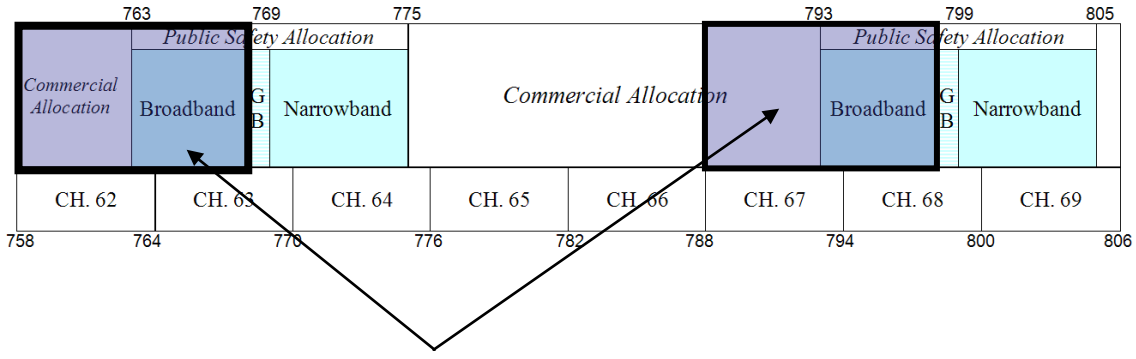
NOTE: The interoperability nomenclature identified on the following pages is for reference only pending finalization of channel labeling recommendations currently before the FCC. These recommendations originated from the National Coordination Committee (NCC) interoperability Subcommittee, asking for standardized channel nomenclature and labeling. The Federal Communications Commission's decisions on channel labeling can alter these values accordingly.

The National Public Safety Telecommunications Council (NPSTC) adopted this Standard Channel Nomenclature for the Public Safety Interoperability Channels in a report entitled, "**NCC / NPSTC Standard Channel Nomenclature for the Public Safety Interoperability Channels"** published originally in July 2003 and later revised in June 2007. The text of the full report may be found at: http://www.npstc.org/documents/IO-0060B-20070612%20Standard%20Channel%20Nomenclature%20Final.pdf

Table 2 of that report which includes the 700 MHz Interoperability Channels is included in entirety on the following pages of Appendix K.

The diagram below labeled Figure 2 is an overview of the FCC revised 700 MHz Band Plan as approved in the Second Order and Report on July 31, 2007.

FIGURE 2: REVISED 700 MHZ BAND PLAN FOR PUBLIC SAFETY SERVICES



Joint Nationwide BB

APPENDIX K

NCC / NPSTC Standard Channel Nomenclature for the Public Safety Interoperability Channels

Table 2: Sorted by band in Frequency or Channel Order

FREQ / FCC CHANNEL (SUBSCRIBER LOAD)		BASE,MOBILE, OR FIXED (REPEATER OR CONTROL)	ELIGIBILITY / PRIMARY USE	COMMON NAME	LIMITATIONS (47 CFR Part 90)
RECEIVE	TRANSMIT				
MHz	MHz	FCC 30 MHz Public Safety Band			
39.4600	SIMPLEX	Base-Fixed-Mobile	Law Enforcement	LLAW1	90.20(c)(3) [15]
39.4800	*SIMPLEX*	*Base-Fixed-Mobile*	*Fire **Proposed***	*LFIRE2*	*Prop. 90.20(c)(3) [19]*
45.8600	SIMPLEX	Base-Fixed-Mobile	Law Enforcement	LLAW3	90.20(c)(3) [15]
45.8800	SIMPLEX	Base-Fixed-Mobile	Fire	LFIRE4	90.20(c)(3) [19]
MHz	MHz	FCC 150 - 162 MHz Public Safety Band			
151.1375	SIMPLEX	Base-Fixed-Mobile	Any Public Safety Eligible	VTAC11	90.20(c)(3) [80]
154.2650	SIMPLEX	Base-Fixed-Mobile	Fire	VFIRE22	90.20(c)(3) [19]
154.2725	SIMPLEX	Base-Fixed-Mobile	Fire	VFIRE24	90.20(c)(3) [19]
154.2800	SIMPLEX	Base-Fixed-Mobile	Fire	VFIRE21	90.20(c)(3) [19]
154.2875	SIMPLEX	Base-Fixed-Mobile	Fire	VFIRE25	90.20(c)(3) [19]
154.2950	SIMPLEX	Base-Fixed-Mobile	Fire	VFIRE23	90.20(c)(3) [19]
154.3025	SIMPLEX	Base-Fixed-Mobile	Fire	VFIRE26	90.20(c)(3) [19]
154.4525	SIMPLEX	Base-Fixed-Mobile	Any Public Safety Eligible	VTAC12	90.20(c)(3) [80]
155.3400	SIMPLEX	Base-Fixed-Mobile	EMS	VMED28	90.20(c)(3) [40]
155.3475	SIMPLEX	Base-Fixed-Mobile	EMS	VMED29	90.20(c)(3) [40]
155.4750	SIMPLEX	Base-Fixed-Mobile	Law Enforcement	VLAW31	90.20(c)(3) [41]
155.4825	SIMPLEX	Base-Fixed-Mobile	Law Enforcement	VLAW32	90.20(c)(3) [41]
155.7525	SIMPLEX	Base-Fixed-Mobile	Any Public Safety Eligible	VCALL10	90.20(c)(3) [80,83]
158.7375	SIMPLEX	Base-Fixed-Mobile	Any Public Safety Eligible	VTAC13	90.20(c)(3) [80]
159.4725	SIMPLEX	Base-Fixed-Mobile	Any Public Safety Eligible	VTAC14	90.20(c)(3) [80]
161.8500	157.2500	Mobile-Fixed	Allocated for Public Safety Use in 33 Inland VPCAs/EAs	VTAC17	90.20(g)
	SIMPLEX	Base-Fixed-Mobile		VTAC17D	
161.8250	157.2250	Mobile-Fixed	Allocated for Public Safety Use in 33 Inland VPCAs/EAs	VTAC18	90.20(g)
	SIMPLEX	Base-Fixed-Mobile		VTAC18D	
161.8750	157.2750	Mobile-Fixed	Allocated for Public Safety Use in 33 Inland VPCAs/EAs	VTAC19	90.20(g)
	SIMPLEX	Base-Fixed-Mobile		VTAC19D	
MHz	MHz	NTIA VHF Law Enforcement Channels			
MHz	MHz	NTIA VHF Incident Response Channels			
Use of the NTIA Interoperability Channels by FCC licensees is subject to the conditions specified in FCC Public Notice DA 01-1621. There are discrepancies between DA 01-1621 and the current NTIA "Red Book." NPSTC is working with our Federal partners to clarify the discrepancies and develop a revised name plan for the NTIA channels.					
MHz	MHz	NTIA UHF Law Enforcement Channels			
MHz	MHz	NTIA UHF Incident Response Channels			
Use of the NTIA Interoperability Channels by FCC licensees is subject to the conditions specified in FCC Public Notice DA 01-1621. There are discrepancies between DA 01-1621 and the current NTIA "Red Book." NPSTC is working with our Federal partners to clarify the discrepancies and develop a revised name plan for the NTIA channels.					
MHz	MHz	FCC 450 - 470 MHz Public Safety Band			
453.2125	458.2125	Mobile-Fixed	Any Public Safety Eligible	UCALL40	90.20(c)(3) [80,83]
	SIMPLEX	Base-Fixed-Mobile		UCALL40D	
453.4625	458.4625	Mobile-Fixed	Any Public Safety Eligible	UTAC41	90.20(c)(3) [80]
	SIMPLEX	Base-Fixed-Mobile		UTAC41D	
453.7125	458.7125	Mobile-Fixed	Any Public Safety Eligible	UTAC42	90.20(c)(3) [80]
	SIMPLEX	Base-Fixed-Mobile		UTAC42D	
453.8625	458.8625	Mobile-Fixed	Any Public Safety Eligible	UTAC43	90.20(c)(3) [80]
	SIMPLEX	Base-Fixed-Mobile		UTAC43D	
CHANNEL	CHANNEL	FCC 700 MHz Public Safety Band (TV 63 + 68)			
23-24	983-984	Mobile-Fixed	General Public Safety Service (secondary trunked)	7TAC51	90.531(a)(1)(iii)
	SIMPLEX	Base-Fixed-Mobile		7TAC51D	
39-40	999-1000	Mobile-Fixed	Calling Channel	7CALL50	90.531(a)(1)(ii)
	SIMPLEX	Base-Fixed-Mobile		7CALL50D	
63-64	1023-1024	Mobile-Fixed	EMS	7MED65	
	SIMPLEX	Base-Fixed-Mobile		7MED65D	
79-80	1039-1040	Mobile-Fixed	EMS	7MED66	
	SIMPLEX	Base-Fixed-Mobile		7MED66D	
103-104	1063-1064	Mobile-Fixed	General Public Safety Service (secondary trunked)	7TAC52	90.531(a)(1)(iii)
	SIMPLEX	Base-Fixed-Mobile		7TAC52D	
119-120	1079-1080	Mobile-Fixed	General Public Safety Service	7TAC55	
	SIMPLEX	Base-Fixed-Mobile		7TAC55D	
143-144	1103-1104	Mobile-Fixed	Fire	7FIRE63	
	SIMPLEX	Base-Fixed-Mobile		7FIRE63D	

APPENDIX K

FREQ / FCC CHANNEL (SUBSCRIBER LOAD)		BASE,MOBILE, OR FIXED (REPEATER OR CONTROL)	ELIGIBILITY / PRIMARY USE	COMMON NAME	LIMITATIONS (47 CFR Part 90)
RECEIVE	TRANSMIT				
CHANNEL	CHANNEL	FCC 700 MHz Public Safety Band (TV 63 + 68) *(Continued)*			
159-160	1119-1120	Mobile-Fixed	Fire	7FIRE64	
	SIMPLEX	Base-Fixed-Mobile		7FIRE64D	
183-184	1143-1144	Mobile-Fixed	General Public Safety Service (secondary trunked)	7TAC53	90.531(a)(1)(iii)
	SIMPLEX	Base-Fixed-Mobile		7TAC53D	
199-200	1159-1160	Mobile-Fixed	General Public Safety Service	7TAC56	
	SIMPLEX	Base-Fixed-Mobile		7TAC56D	
223-224	1183-1184	Mobile-Fixed	Law Enforcement	7LAW61	
	SIMPLEX	Base-Fixed-Mobile		7LAW61D	
239-240	1199-1200	Mobile-Fixed	Law Enforcement	7LAW62	
	SIMPLEX	Base-Fixed-Mobile		7LAW62D	
263-264	1223-1224	Mobile-Fixed	General Public Safety Service (secondary trunked)	7TAC54	90.531(a)(1)(iii)
	SIMPLEX	Base-Fixed-Mobile		7TAC54D	
279-280	1239-1240	Mobile-Fixed	Mobile Data	7DATA69	90.531(a)(1)(i)
	SIMPLEX	Base-Fixed-Mobile		7DATA69D	
303-304	1263-1264	Mobile-Fixed	Mobile Repeater	7MOB59	
	SIMPLEX	Base-Fixed-Mobile		7MOB59D	
319-320	1279-1280	Mobile-Fixed	Other Public Service	7GTAC57	
	SIMPLEX	Base-Fixed-Mobile		7GTAC57D	
CHANNEL	CHANNEL	FCC 700 MHz Public Safety Band (TV 64 + 69)			
641-642	1601-1602	Mobile-Fixed	EMS	7MED86	
	SIMPLEX	Base-Fixed-Mobile		7MED86D	
657-658	1617-1618	Mobile-Fixed	General Public Safety Service (secondary trunked)	7TAC71	90.531(a)(1)(iii)
	SIMPLEX	Base-Fixed-Mobile		7TAC71D	
681-682	1641-1642	Mobile-Fixed	Calling Channel	7CALL70	90.531(a)(1)(ii)
	SIMPLEX	Base-Fixed-Mobile		7CALL70D	
697-698	1657-1658	Mobile-Fixed	EMS	7MED87	
	SIMPLEX	Base-Fixed-Mobile		7MED87D	
721-722	1681-1682	Mobile-Fixed	Fire	7FIRE83	
	SIMPLEX	Base-Fixed-Mobile		7FIRE83D	
737-738	1697-1698	Mobile-Fixed	General Public Safety Service (secondary trunked)	7TAC72	90.531(a)(1)(iii)
	SIMPLEX	Base-Fixed-Mobile		7TAC72D	
761-762	1721-1722	Mobile-Fixed	General Public Safety Service	7TAC75	
	SIMPLEX	Base-Fixed-Mobile		7TAC75D	
777-778	1737-1738	Mobile-Fixed	Fire	7FIRE84	
	SIMPLEX	Base-Fixed-Mobile		7FIRE84D	
801-802	1761-1762	Mobile-Fixed	Law Enforcement	7LAW81	
	SIMPLEX	Base-Fixed-Mobile		7LAW81D	
817-818	1777-1778	Mobile-Fixed	General Public Safety Service (secondary trunked)	7TAC73	90.531(a)(1)(iii)
	SIMPLEX	Base-Fixed-Mobile		7TAC73D	
841-842	1801-1802	Mobile-Fixed	General Public Safety Service	7TAC76	
	SIMPLEX	Base-Fixed-Mobile		7TAC76D	
857-858	1817-1818	Mobile-Fixed	Law Enforcement	7LAW82	
	SIMPLEX	Base-Fixed-Mobile		7LAW82D	
881-882	1841-1842	Mobile-Fixed	Mobile Repeater	7MOB79	
	SIMPLEX	Base-Fixed-Mobile		7MOB79D	
897-898	1857-1858	Mobile-Fixed	General Public Safety Service (secondary trunked)	7TAC74	90.531(a)(1)(iii)
	SIMPLEX	Base-Fixed-Mobile		7TAC74D	
921-922	1881-1882	Mobile-Fixed	Mobile Data	7DATA89	90.531(a)(1)(i)
	SIMPLEX	Base-Fixed-Mobile		7DATA89D	
937-938	1897-1898	Mobile-Fixed	Other Public Service	7GTAC77	
	SIMPLEX	Base-Fixed-Mobile		7GTAC77D	
MHz	MHz	FCC 800 MHz NPSPAC Band **(Post-Rebanding)**			
851.0125	806.0125	Mobile-Fixed	Any Public Safety Eligible	8CALL90	90.16
	SIMPLEX	Base-Fixed-Mobile		8CALL90D	
851.5125	806.5125	Mobile-Fixed	Any Public Safety Eligible	8TAC91	90.16
	SIMPLEX	Base-Fixed-Mobile		8TAC91D	
852.0125	807.0125	Mobile-Fixed	Any Public Safety Eligible	8TAC92	90.16
	SIMPLEX	Base-Fixed-Mobile		8TAC92D	
852.5125	807.5125	Mobile-Fixed	Any Public Safety Eligible	8TAC93	90.16
	SIMPLEX	Base-Fixed-Mobile		8TAC93D	
853.0125	808.0125	Mobile-Fixed	Any Public Safety Eligible	8TAC94	90.16
	SIMPLEX	Base-Fixed-Mobile		8TAC94D	

APPENDIX K

Project 25 Common Air Interface

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

Network Access Code
In the Project 25 Common Air Interface definition, the Network Access Code is analogous to the use of CTCSS and CDCSS signals in analog radio systems. It is a code transmitted in the pre-amble of the P25 signal and repeated periodically throughout the transmission. Its purpose is to provide selective access to and maintain access to a receiver. It is also used to block nuisance and other co-channel signals. There are up to 4096 of these NAC codes. For ease of migration in other frequency bands, a NAC code table was developed which shows a mapping of CTCSS and CDCSS signals into corresponding NAC codes. Document TIA/EIA TSB102.BAAC contains NAC code table and other Project 25 Common Air Interface Reserve Values. Use of corresponding NAC code $293 is required for the 700 MHz Interoperability Channel NAC code.

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

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 $0000000000000000000.

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

APPENDIX L

Region 16 (Kansas) 700 MHz General Use Channel Assignment

County	Class	Band Width	Channel	Base Frequency	Mobile Frequency
Allen	General Use	Voice 25KHz	297-300	770.862500	800.862500
	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	493-496	772.087500	802.087500
	General Use	Voice 25KHz	549-552	772.437500	802.437500
	General Use	Voice 25KHz	833-836	774.212500	804.212500
	General Use	Voice 25KHz	873-876	774.462500	804.462500
Anderson	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	325-328	771.037500	801.037500
	General Use	Voice 25KHz	429-432	771.687500	801.687500
	General Use	Voice 25KHz	485-488	772.037500	802.037500
	General Use	Voice 25KHz	609-612	772.812500	802.812500
	General Use	Voice 25KHz	717-720	773.487500	803.487500
	General Use	Voice 25KHz	905-908	774.662500	804.662500
Atchison	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	349-352	771.187500	801.187500
	General Use	Voice 25KHz	409-412	771.562500	801.562500
	General Use	Voice 25KHz	449-452	771.812500	801.812500
	General Use	Voice 25KHz	489-492	772.062500	802.062500
	General Use	Voice 25KHz	625-628	772.912500	802.912500
	General Use	Voice 25KHz	669-672	773.187500	803.187500
Barber	General Use	Voice 25KHz	129-132	769.812500	799.812500
	General Use	Voice 25KHz	293-296	770.837500	800.837500
	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	409-412	771.562500	801.562500
	General Use	Voice 25KHz	485-488	772.037500	802.037500
	General Use	Voice 25KHz	533-536	772.337500	802.337500
	General Use	Voice 25KHz	585-588	772.662500	802.662500
	General Use	Voice 25KHz	793-796	773.962500	803.962500
Barton	General Use	Voice 25KHz	85-88	769.537500	799.537500
	General Use	Voice 25KHz	125-128	769.787500	799.787500
	General Use	Voice 25KHz	169-172	770.062500	800.062500

APPENDIX L

Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	209-212	770.312500	800.312500
	General Use	Voice 25KHz	285-288	770.787500	800.787500
	General Use	Voice 25KHz	325-328	771.037500	801.037500
	General Use	Voice 25KHz	365-368	771.287500	801.287500
	General Use	Voice 25KHz	429-432	771.687500	801.687500
	General Use	Voice 25KHz	469-472	771.937500	801.937500
	General Use	Voice 25KHz	545-548	772.412500	802.412500
	General Use	Voice 25KHz	597-600	772.737500	802.737500
	General Use	Voice 25KHz	665-668	773.162500	803.162500
	General Use	Voice 25KHz	741-744	773.637500	803.637500
	General Use	Voice 25KHz	781-784	773.887500	803.887500
	General Use	Voice 25KHz	837-840	774.237500	804.237500
	General Use	Voice 25KHz	905-908	774.662500	804.662500
	General Use	Voice 25KHz	945-948	774.912500	804.912500
Bourbon	General Use	Voice 25KHz	17-20	769.112500	799.112500
	General Use	Voice 25KHz	133-136	769.837500	799.837500
	General Use	Voice 25KHz	377-380	771.362500	801.362500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	505-508	772.162500	802.162500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	597-600	772.737500	802.737500
	General Use	Voice 25KHz	821-824	774.137500	804.137500
Brown	General Use	Voice 25KHz	41-44	769.262500	799.262500
	General Use	Voice 25KHz	97-100	769.612500	799.612500
	General Use	Voice 25KHz	329-332	771.062500	801.062500
	General Use	Voice 25KHz	369-372	771.312500	801.312500
	General Use	Voice 25KHz	441-444	771.762500	801.762500
	General Use	Voice 25KHz	533-536	772.337500	802.337500
	General Use	Voice 25KHz	581-584	772.637500	802.637500
	General Use	Voice 25KHz	713-716	773.462500	803.462500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
Butler	General Use	Voice 25KHz	17-20	769.112500	799.112500
	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	97-100	769.612500	799.612500

APPENDIX L

Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	293-296	770.837500	800.837500
	General Use	Voice 25KHz	353-356	771.212500	801.212500
	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	473-476	771.962500	801.962500
	General Use	Voice 25KHz	521-524	772.262500	802.262500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
	General Use	Voice 25KHz	617-620	772.862500	802.862500
	General Use	Voice 25KHz	661-664	773.137500	803.137500
	General Use	Voice 25KHz	701-704	773.387500	803.387500
	General Use	Voice 25KHz	781-784	773.887500	803.887500
	General Use	Voice 25KHz	837-840	774.237500	804.237500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
	General Use	Voice 25KHz	917-920	774.737500	804.737500
Chase	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	413-416	771.587500	801.587500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	633-636	772.962500	802.962500
Chautauqua	General Use	Voice 25KHz	53-56	769.337500	799.337500
	General Use	Voice 25KHz	249-252	770.562500	800.562500
	General Use	Voice 25KHz	333-336	771.087500	801.087500
	General Use	Voice 25KHz	389-392	771.437500	801.437500
	General Use	Voice 25KHz	489-492	772.062500	802.062500
	General Use	Voice 25KHz	549-552	772.437500	802.437500
Cherokee	General Use	Voice 25KHz	81-84	769.512500	799.512500
	General Use	Voice 25KHz	385-388	771.412500	801.412500
	General Use	Voice 25KHz	425-428	771.662500	801.662500
	General Use	Voice 25KHz	485-488	772.037500	802.037500
	General Use	Voice 25KHz	569-572	772.562500	802.562500
	General Use	Voice 25KHz	609-612	772.812500	802.812500
	General Use	Voice 25KHz	825-828	774.162500	804.162500
	General Use	Voice 25KHz	905-908	774.662500	804.662500
	General Use	Voice 25KHz	945-948	774.912500	804.912500
Cheyenne	General Use	Voice 25KHz	57-60	769.362500	799.362500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	217-220	770.362500	800.362500
	General Use	Voice 25KHz	345-348	771.162500	801.162500
	General Use	Voice 25KHz	401-404	771.512500	801.512500
	General Use	Voice 25KHz	441-444	771.762500	801.762500
	General Use	Voice 25KHz	485-488	772.037500	802.037500
	General Use	Voice 25KHz	585-588	772.662500	802.662500
	General Use	Voice 25KHz	909-912	774.687500	804.687500
Clark	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	357-360	771.237500	801.237500
	General Use	Voice 25KHz	521-524	772.262500	802.262500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
Clay	General Use	Voice 25KHz	53-56	769.337500	799.337500
	General Use	Voice 25KHz	345-348	771.162500	801.162500
	General Use	Voice 25KHz	441-444	771.762500	801.762500
	General Use	Voice 25KHz	517-520	772.237500	802.237500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	629-632	772.937500	802.937500
	General Use	Voice 25KHz	781-784	773.887500	803.887500
	General Use	Voice 25KHz	945-948	774.912500	804.912500
Cloud	General Use	Voice 25KHz	41-44	769.262500	799.262500
	General Use	Voice 25KHz	129-132	769.812500	799.812500
	General Use	Voice 25KHz	169-172	770.062500	800.062500
	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	285-288	770.787500	800.787500
	General Use	Voice 25KHz	365-368	771.287500	801.287500
	General Use	Voice 25KHz	489-492	772.062500	802.062500
	General Use	Voice 25KHz	529-532	772.312500	802.312500
	General Use	Voice 25KHz	745-748	773.662500	803.662500
	General Use	Voice 25KHz	833-836	774.212500	804.212500
	General Use	Voice 25KHz	901-904	774.637500	804.637500
Coffey	General Use	Voice 25KHz	45-48	769.287500	799.287500
	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	357-360	771.237500	801.237500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	417-420	771.612500	801.612500
	General Use	Voice 25KHz	569-572	772.562500	802.562500
	General Use	Voice 25KHz	705-708	773.412500	803.412500
	General Use	Voice 25KHz	745-748	773.662500	803.662500
	General Use	Voice 25KHz	785-788	773.912500	803.912500
Comanche	General Use	Voice 25KHz	41-44	769.262500	799.262500
	General Use	Voice 25KHz	365-368	771.287500	801.287500
	General Use	Voice 25KHz	509-512	772.187500	802.187500
	General Use	Voice 25KHz	565-568	772.537500	802.537500
	General Use	Voice 25KHz	669-672	773.187500	803.187500
	General Use	Voice 25KHz	713-716	773.462500	803.462500
	General Use	Voice 25KHz	865-868	774.412500	804.412500
Cowley	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	257-260	770.612500	800.612500
	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	417-420	771.612500	801.612500
	General Use	Voice 25KHz	461-464	771.887500	801.887500
	General Use	Voice 25KHz	561-564	772.512500	802.512500
	General Use	Voice 25KHz	601-604	772.762500	802.762500
	General Use	Voice 25KHz	709-712	773.437500	803.437500
	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	797-800	773.987500	803.987500
Crawford	General Use	Voice 25KHz	53-56	769.337500	799.337500
	General Use	Voice 25KHz	201-204	770.262500	800.262500
	General Use	Voice 25KHz	245-248	770.537500	800.537500
	General Use	Voice 25KHz	289-292	770.812500	800.812500
	General Use	Voice 25KHz	349-352	771.187500	801.187500
	General Use	Voice 25KHz	437-440	771.737500	801.737500
	General Use	Voice 25KHz	477-480	771.987500	801.987500
	General Use	Voice 25KHz	533-536	772.337500	802.337500
	General Use	Voice 25KHz	577-580	772.612500	802.612500
	General Use	Voice 25KHz	617-620	772.862500	802.862500
	General Use	Voice 25KHz	669-672	773.187500	803.187500
	General Use	Voice 25KHz	713-716	773.462500	803.462500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	865-868	774.412500	804.412500
Decatur	General Use	Voice 25KHz	165-168	770.037500	800.037500
	General Use	Voice 25KHz	385-388	771.412500	801.412500
	General Use	Voice 25KHz	445-448	771.787500	801.787500
	General Use	Voice 25KHz	541-544	772.387500	802.387500
	General Use	Voice 25KHz	581-584	772.637500	802.637500
	General Use	Voice 25KHz	629-632	772.937500	802.937500
	General Use	Voice 25KHz	785-788	773.912500	803.912500
	General Use	Voice 25KHz	829-832	774.187500	804.187500
Dickinson	General Use	Voice 25KHz	121-124	769.762500	799.762500
	General Use	Voice 25KHz	165-168	770.037500	800.037500
	General Use	Voice 25KHz	245-248	770.537500	800.537500
	General Use	Voice 25KHz	389-392	771.437500	801.437500
	General Use	Voice 25KHz	429-432	771.687500	801.687500
	General Use	Voice 25KHz	469-472	771.937500	801.937500
	General Use	Voice 25KHz	541-544	772.387500	802.387500
	General Use	Voice 25KHz	593-596	772.712500	802.712500
	General Use	Voice 25KHz	677-680	773.237500	803.237500
	General Use	Voice 25KHz	717-720	773.487500	803.487500
	General Use	Voice 25KHz	821-824	774.137500	804.137500
Doniphan	General Use	Voice 25KHz	129-132	769.812500	799.812500
	General Use	Voice 25KHz	245-248	770.537500	800.537500
	General Use	Voice 25KHz	381-384	771.387500	801.387500
	General Use	Voice 25KHz	505-508	772.162500	802.162500
	General Use	Voice 25KHz	549-552	772.437500	802.437500
	General Use	Voice 25KHz	613-616	772.837500	802.837500
	General Use	Voice 25KHz	705-708	773.412500	803.412500
Douglas	General Use	Voice 25KHz	41-44	769.262500	799.262500
	General Use	Voice 25KHz	81-84	769.512500	799.512500
	General Use	Voice 25KHz	129-132	769.812500	799.812500
	General Use	Voice 25KHz	173-176	770.087500	800.087500
	General Use	Voice 25KHz	321-324	771.012500	801.012500
	General Use	Voice 25KHz	385-388	771.412500	801.412500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	433-436	771.712500	801.712500
	General Use	Voice 25KHz	505-508	772.162500	802.162500
	General Use	Voice 25KHz	545-548	772.412500	802.412500
	General Use	Voice 25KHz	593-596	772.712500	802.712500
	General Use	Voice 25KHz	637-640	772.987500	802.987500
	General Use	Voice 25KHz	701-704	773.387500	803.387500
	General Use	Voice 25KHz	821-824	774.137500	804.137500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
	General Use	Voice 25KHz	901-904	774.637500	804.637500
Edwards	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	337-340	771.112500	801.112500
	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	453-456	771.837500	801.837500
	General Use	Voice 25KHz	525-528	772.287500	802.287500
	General Use	Voice 25KHz	717-720	773.487500	803.487500
	General Use	Voice 25KHz	909-912	774.687500	804.687500
Elk	General Use	Voice 25KHz	121-124	769.762500	799.762500
	General Use	Voice 25KHz	361-364	771.262500	801.262500
	General Use	Voice 25KHz	409-412	771.562500	801.562500
	General Use	Voice 25KHz	449-452	771.812500	801.812500
	General Use	Voice 25KHz	501-504	772.137500	802.137500
Ellis	General Use	Voice 25KHz	45-48	769.287500	799.287500
	General Use	Voice 25KHz	93-96	769.587500	799.587500
	General Use	Voice 25KHz	161-164	770.012500	800.012500
	General Use	Voice 25KHz	217-220	770.362500	800.362500
	General Use	Voice 25KHz	257-260	770.612500	800.612500
	General Use	Voice 25KHz	297-300	770.862500	800.862500
	General Use	Voice 25KHz	337-340	771.112500	801.112500
	General Use	Voice 25KHz	401-404	771.512500	801.512500
	General Use	Voice 25KHz	477-480	771.987500	801.987500
	General Use	Voice 25KHz	561-564	772.512500	802.512500
	General Use	Voice 25KHz	613-616	772.837500	802.837500
	General Use	Voice 25KHz	677-680	773.237500	803.237500
	General Use	Voice 25KHz	717-720	773.487500	803.487500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	825-828	774.162500	804.162500
	General Use	Voice 25KHz	865-868	774.412500	804.412500
	General Use	Voice 25KHz	917-920	774.737500	804.737500
Ellsworth	General Use	Voice 25KHz	17-20	769.112500	799.112500
	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	373-376	771.337500	801.337500
	General Use	Voice 25KHz	421-424	771.637500	801.637500
	General Use	Voice 25KHz	485-488	772.037500	802.037500
	General Use	Voice 25KHz	565-568	772.537500	802.537500
	General Use	Voice 25KHz	621-624	772.887500	802.887500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
Finney	General Use	Voice 25KHz	17-20	769.112500	799.112500
	General Use	Voice 25KHz	89-92	769.562500	799.562500
	General Use	Voice 25KHz	129-132	769.812500	799.812500
	General Use	Voice 25KHz	169-172	770.062500	800.062500
	General Use	Voice 25KHz	209-212	770.312500	800.312500
	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	333-336	771.087500	801.087500
	General Use	Voice 25KHz	385-388	771.412500	801.412500
	General Use	Voice 25KHz	457-460	771.862500	801.862500
	General Use	Voice 25KHz	517-520	772.237500	802.237500
	General Use	Voice 25KHz	581-584	772.637500	802.637500
	General Use	Voice 25KHz	621-624	772.887500	802.887500
	General Use	Voice 25KHz	673-676	773.212500	803.212500
	General Use	Voice 25KHz	713-716	773.462500	803.462500
	General Use	Voice 25KHz	781-784	773.887500	803.887500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
	General Use	Voice 25KHz	901-904	774.637500	804.637500
	General Use	Voice 25KHz	945-948	774.912500	804.912500
Ford	General Use	Voice 25KHz	49-52	769.312500	799.312500
	General Use	Voice 25KHz	121-124	769.762500	799.762500
	General Use	Voice 25KHz	161-164	770.012500	800.012500
	General Use	Voice 25KHz	201-204	770.262500	800.262500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	289-292	770.812500	800.812500
	General Use	Voice 25KHz	377-380	771.362500	801.362500
	General Use	Voice 25KHz	425-428	771.662500	801.662500
	General Use	Voice 25KHz	477-480	771.987500	801.987500
	General Use	Voice 25KHz	553-556	772.462500	802.462500
	General Use	Voice 25KHz	613-616	772.837500	802.837500
	General Use	Voice 25KHz	661-664	773.137500	803.137500
	General Use	Voice 25KHz	701-704	773.387500	803.387500
	General Use	Voice 25KHz	749-752	773.687500	803.687500
	General Use	Voice 25KHz	789-792	773.937500	803.937500
	General Use	Voice 25KHz	833-836	774.212500	804.212500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
	General Use	Voice 25KHz	917-920	774.737500	804.737500
Franklin	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	289-292	770.812500	800.812500
	General Use	Voice 25KHz	345-348	771.162500	801.162500
	General Use	Voice 25KHz	393-396	771.462500	801.462500
	General Use	Voice 25KHz	445-448	771.787500	801.787500
	General Use	Voice 25KHz	517-520	772.237500	802.237500
	General Use	Voice 25KHz	561-564	772.512500	802.512500
	General Use	Voice 25KHz	601-604	772.762500	802.762500
	General Use	Voice 25KHz	665-668	773.162500	803.162500
Geary	General Use	Voice 25KHz	17-20	769.112500	799.112500
	General Use	Voice 25KHz	173-176	770.087500	800.087500
	General Use	Voice 25KHz	293-296	770.837500	800.837500
	General Use	Voice 25KHz	353-356	771.212500	801.212500
	General Use	Voice 25KHz	401-404	771.512500	801.512500
	General Use	Voice 25KHz	449-452	771.812500	801.812500
	General Use	Voice 25KHz	505-508	772.162500	802.162500
	General Use	Voice 25KHz	581-584	772.637500	802.637500
	General Use	Voice 25KHz	637-640	772.987500	802.987500
	General Use	Voice 25KHz	789-792	773.937500	803.937500
	General Use	Voice 25KHz	829-832	774.187500	804.187500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	877-880	774.487500	804.487500
Gove	General Use	Voice 25KHz	13-16	769.087500	799.087500
	General Use	Voice 25KHz	125-128	769.787500	799.787500
	General Use	Voice 25KHz	253-256	770.587500	800.587500
	General Use	Voice 25KHz	389-392	771.437500	801.437500
	General Use	Voice 25KHz	473-476	771.962500	801.962500
	General Use	Voice 25KHz	545-548	772.412500	802.412500
	General Use	Voice 25KHz	585-588	772.662500	802.662500
	General Use	Voice 25KHz	821-824	774.137500	804.137500
	General Use	Voice 25KHz	905-908	774.662500	804.662500
Graham	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	209-212	770.312500	800.312500
	General Use	Voice 25KHz	321-324	771.012500	801.012500
	General Use	Voice 25KHz	369-372	771.312500	801.312500
	General Use	Voice 25KHz	437-440	771.737500	801.737500
	General Use	Voice 25KHz	489-492	772.062500	802.062500
	State License	Voice 25KHz	105-108	769.662500	799.662500
	State License	Voice 25KHz	153-156	769.962500	799.962500
	State License	Voice 25KHz	685-688	773.287500	803.287500
Grant	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	253-256	770.587500	800.587500
	General Use	Voice 25KHz	345-348	771.162500	801.162500
	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	477-480	771.987500	801.987500
	General Use	Voice 25KHz	541-544	772.387500	802.387500
	General Use	Voice 25KHz	597-600	772.737500	802.737500
	General Use	Voice 25KHz	661-664	773.137500	803.137500
	General Use	Voice 25KHz	701-704	773.387500	803.387500
	General Use	Voice 25KHz	749-752	773.687500	803.687500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
	General Use	Voice 25KHz	917-920	774.737500	804.737500
Gray	General Use	Voice 25KHz	217-220	770.362500	800.362500
	General Use	Voice 25KHz	257-260	770.612500	800.612500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	297-300	770.862500	800.862500
	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	445-448	771.787500	801.787500
	General Use	Voice 25KHz	545-548	772.412500	802.412500
	General Use	Voice 25KHz	589-592	772.687500	802.687500
	General Use	Voice 25KHz	741-744	773.637500	803.637500
	General Use	Voice 25KHz	825-828	774.162500	804.162500
Greeley	General Use	Voice 25KHz	125-128	769.787500	799.787500
	General Use	Voice 25KHz	329-332	771.062500	801.062500
	General Use	Voice 25KHz	389-392	771.437500	801.437500
	General Use	Voice 25KHz	429-432	771.687500	801.687500
	General Use	Voice 25KHz	741-744	773.637500	803.637500
Greenwood	General Use	Voice 25KHz	337-340	771.112500	801.112500
	General Use	Voice 25KHz	385-388	771.412500	801.412500
	General Use	Voice 25KHz	457-460	771.862500	801.862500
	General Use	Voice 25KHz	529-532	772.312500	802.312500
	General Use	Voice 25KHz	593-596	772.712500	802.712500
	General Use	Voice 25KHz	821-824	774.137500	804.137500
	General Use	Voice 25KHz	901-904	774.637500	804.637500
Hamilton	General Use	Voice 25KHz	85-88	769.537500	799.537500
	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	337-340	771.112500	801.112500
	General Use	Voice 25KHz	377-380	771.362500	801.362500
	General Use	Voice 25KHz	461-464	771.887500	801.887500
	General Use	Voice 25KHz	613-616	772.837500	802.837500
	General Use	Voice 25KHz	677-680	773.237500	803.237500
	General Use	Voice 25KHz	717-720	773.487500	803.487500
Harper	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	253-256	770.587500	800.587500
	General Use	Voice 25KHz	333-336	771.087500	801.087500
	General Use	Voice 25KHz	385-388	771.412500	801.412500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	505-508	772.162500	802.162500
	General Use	Voice 25KHz	561-564	772.512500	802.512500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	633-636	772.962500	802.962500
	General Use	Voice 25KHz	741-744	773.637500	803.637500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
Harvey	General Use	Voice 25KHz	173-176	770.087500	800.087500
	General Use	Voice 25KHz	249-252	770.562500	800.562500
	General Use	Voice 25KHz	329-332	771.062500	801.062500
	General Use	Voice 25KHz	369-372	771.312500	801.312500
	General Use	Voice 25KHz	433-436	771.712500	801.712500
	General Use	Voice 25KHz	481-484	772.012500	802.012500
	General Use	Voice 25KHz	545-548	772.412500	802.412500
	General Use	Voice 25KHz	597-600	772.737500	802.737500
	General Use	Voice 25KHz	825-828	774.162500	804.162500
Haskell	General Use	Voice 25KHz	321-324	771.012500	801.012500
	General Use	Voice 25KHz	365-368	771.287500	801.287500
	General Use	Voice 25KHz	437-440	771.737500	801.737500
	General Use	Voice 25KHz	505-508	772.162500	802.162500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	609-612	772.812500	802.812500
	General Use	Voice 25KHz	837-840	774.237500	804.237500
Hodgeman	General Use	Voice 25KHz	41-44	769.262500	799.262500
	General Use	Voice 25KHz	361-364	771.262500	801.262500
	General Use	Voice 25KHz	417-420	771.612500	801.612500
	General Use	Voice 25KHz	489-492	772.062500	802.062500
	General Use	Voice 25KHz	569-572	772.562500	802.562500
	General Use	Voice 25KHz	637-640	772.987500	802.987500
Jackson	General Use	Voice 25KHz	85-88	769.537500	799.537500
	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	429-432	771.687500	801.687500
	General Use	Voice 25KHz	509-512	772.187500	802.187500
	General Use	Voice 25KHz	565-568	772.537500	802.537500
	General Use	Voice 25KHz	605-608	772.787500	802.787500
	General Use	Voice 25KHz	825-828	774.162500	804.162500
	General Use	Voice 25KHz	865-868	774.412500	804.412500
Jefferson	General Use	Voice 25KHz	285-288	770.787500	800.787500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	361-364	771.262500	801.262500
	General Use	Voice 25KHz	401-404	771.512500	801.512500
	General Use	Voice 25KHz	481-484	772.012500	802.012500
	General Use	Voice 25KHz	521-524	772.262500	802.262500
	General Use	Voice 25KHz	617-620	772.862500	802.862500
	General Use	Voice 25KHz	909-912	774.687500	804.687500
Jewell	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	97-100	769.612500	799.612500
	General Use	Voice 25KHz	217-220	770.362500	800.362500
	General Use	Voice 25KHz	373-376	771.337500	801.337500
	General Use	Voice 25KHz	425-428	771.662500	801.662500
	General Use	Voice 25KHz	469-472	771.937500	801.937500
	General Use	Voice 25KHz	521-524	772.262500	802.262500
	General Use	Voice 25KHz	593-596	772.712500	802.712500
Johnson	General Use	Voice 25KHz	13-16	769.087500	799.087500
	General Use	Voice 25KHz	53-56	769.337500	799.337500
	General Use	Voice 25KHz	97-100	769.612500	799.612500
	General Use	Voice 25KHz	165-168	770.037500	800.037500
	General Use	Voice 25KHz	205-208	770.287500	800.287500
	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	329-332	771.062500	801.062500
	General Use	Voice 25KHz	369-372	771.312500	801.312500
	General Use	Voice 25KHz	413-416	771.587500	801.587500
	General Use	Voice 25KHz	477-480	771.987500	801.987500
	General Use	Voice 25KHz	533-536	772.337500	802.337500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
	General Use	Voice 25KHz	613-616	772.837500	802.837500
	General Use	Voice 25KHz	673-676	773.212500	803.212500
	General Use	Voice 25KHz	713-716	773.462500	803.462500
	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	837-840	774.237500	804.237500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
	General Use	Voice 25KHz	917-920	774.737500	804.737500
Kearny	General Use	Voice 25KHz	293-296	770.837500	800.837500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	357-360	771.237500	801.237500
	General Use	Voice 25KHz	405-408	771.537500	801.537500
	General Use	Voice 25KHz	449-452	771.812500	801.812500
	General Use	Voice 25KHz	525-528	772.287500	802.287500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
	General Use	Voice 25KHz	633-636	772.962500	802.962500
	General Use	Voice 25KHz	789-792	773.937500	803.937500
	General Use	Voice 25KHz	829-832	774.187500	804.187500
	General Use	Voice 25KHz	869-872	774.437500	804.437500
	General Use	Voice 25KHz	909-912	774.687500	804.687500
Kingman	General Use	Voice 25KHz	245-248	770.537500	800.537500
	General Use	Voice 25KHz	353-356	771.212500	801.212500
	General Use	Voice 25KHz	401-404	771.512500	801.512500
	General Use	Voice 25KHz	457-460	771.862500	801.862500
	General Use	Voice 25KHz	517-520	772.237500	802.237500
	General Use	Voice 25KHz	593-596	772.712500	802.712500
	General Use	Voice 25KHz	661-664	773.137500	803.137500
	General Use	Voice 25KHz	701-704	773.387500	803.387500
	General Use	Voice 25KHz	781-784	773.887500	803.887500
	General Use	Voice 25KHz	837-840	774.237500	804.237500
Kiowa	General Use	Voice 25KHz	89-92	769.562500	799.562500
	General Use	Voice 25KHz	349-352	771.187500	801.187500
	General Use	Voice 25KHz	441-444	771.762500	801.762500
	General Use	Voice 25KHz	493-496	772.087500	802.087500
	General Use	Voice 25KHz	541-544	772.387500	802.387500
	General Use	Voice 25KHz	629-632	772.937500	802.937500
Labette	General Use	Voice 25KHz	13-16	769.087500	799.087500
	General Use	Voice 25KHz	97-100	769.612500	799.612500
	General Use	Voice 25KHz	173-176	770.087500	800.087500
	General Use	Voice 25KHz	393-396	771.462500	801.462500
	General Use	Voice 25KHz	445-448	771.787500	801.787500
	General Use	Voice 25KHz	509-512	772.187500	802.187500
	General Use	Voice 25KHz	601-604	772.762500	802.762500
	General Use	Voice 25KHz	745-748	773.662500	803.662500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	785-788	773.912500	803.912500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
	General Use	Voice 25KHz	917-920	774.737500	804.737500
Lane	General Use	Voice 25KHz	349-352	771.187500	801.187500
	General Use	Voice 25KHz	409-412	771.562500	801.562500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	609-612	772.812500	802.812500
	General Use	Voice 25KHz	873-876	774.462500	804.462500
	General Use	Voice 25KHz	913-916	774.712500	804.712500
Leavenworth	General Use	Voice 25KHz	89-92	769.562500	799.562500
	General Use	Voice 25KHz	249-252	770.562500	800.562500
	General Use	Voice 25KHz	293-296	770.837500	800.837500
	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	425-428	771.662500	801.662500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	741-744	773.637500	803.637500
	General Use	Voice 25KHz	781-784	773.887500	803.887500
	General Use	Voice 25KHz	829-832	774.187500	804.187500
	General Use	Voice 25KHz	869-872	774.437500	804.437500
	General Use	Voice 25KHz	941-944	774.887500	804.887500
Lincoln	General Use	Voice 25KHz	89-92	769.562500	799.562500
	General Use	Voice 25KHz	349-352	771.187500	801.187500
	General Use	Voice 25KHz	413-416	771.587500	801.587500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	673-676	773.212500	803.212500
	General Use	Voice 25KHz	713-716	773.462500	803.462500
Linn	General Use	Voice 25KHz	49-52	769.312500	799.312500
	General Use	Voice 25KHz	541-544	772.387500	802.387500
	General Use	Voice 25KHz	581-584	772.637500	802.637500
	General Use	Voice 25KHz	633-636	772.962500	802.962500
	General Use	Voice 25KHz	709-712	773.437500	803.437500
	General Use	Voice 25KHz	781-784	773.887500	803.887500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

Logan	General Use	Voice 25KHz	53-56	769.337500	799.337500
	General Use	Voice 25KHz	173-176	770.087500	800.087500
	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	481-484	772.012500	802.012500
	General Use	Voice 25KHz	565-568	772.537500	802.537500
	General Use	Voice 25KHz	625-628	772.912500	802.912500
	General Use	Voice 25KHz	837-840	774.237500	804.237500
Lyon	General Use	Voice 25KHz	13-16	769.087500	799.087500
	General Use	Voice 25KHz	53-56	769.337500	799.337500
	General Use	Voice 25KHz	125-128	769.787500	799.787500
	General Use	Voice 25KHz	169-172	770.062500	800.062500
	General Use	Voice 25KHz	249-252	770.562500	800.562500
	General Use	Voice 25KHz	349-352	771.187500	801.187500
	General Use	Voice 25KHz	425-428	771.662500	801.662500
	General Use	Voice 25KHz	477-480	771.987500	801.987500
	General Use	Voice 25KHz	537-540	772.362500	802.362500
	General Use	Voice 25KHz	621-624	772.887500	802.887500
	General Use	Voice 25KHz	669-672	773.187500	803.187500
	General Use	Voice 25KHz	713-716	773.462500	803.462500
	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	869-872	774.437500	804.437500
	General Use	Voice 25KHz	941-944	774.887500	804.887500
Marion	General Use	Voice 25KHz	129-132	769.812500	799.812500
	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	453-456	771.837500	801.837500
	General Use	Voice 25KHz	493-496	772.087500	802.087500
	General Use	Voice 25KHz	533-536	772.337500	802.337500
	General Use	Voice 25KHz	585-588	772.662500	802.662500
	General Use	Voice 25KHz	709-712	773.437500	803.437500
	General Use	Voice 25KHz	753-756	773.712500	803.712500
	General Use	Voice 25KHz	909-912	774.687500	804.687500
Marshall	General Use	Voice 25KHz	81-84	769.512500	799.512500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	289-292	770.812500	800.812500
	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	385-388	771.412500	801.412500
	General Use	Voice 25KHz	425-428	771.662500	801.662500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	561-564	772.512500	802.512500
	General Use	Voice 25KHz	617-620	772.862500	802.862500
	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	869-872	774.437500	804.437500
McPherson	General Use	Voice 25KHz	41-44	769.262500	799.262500
	General Use	Voice 25KHz	81-84	769.512500	799.512500
	General Use	Voice 25KHz	201-204	770.262500	800.262500
	General Use	Voice 25KHz	289-292	770.812500	800.812500
	General Use	Voice 25KHz	361-364	771.262500	801.262500
	General Use	Voice 25KHz	409-412	771.562500	801.562500
	General Use	Voice 25KHz	461-464	771.887500	801.887500
	General Use	Voice 25KHz	501-504	772.137500	802.137500
	General Use	Voice 25KHz	553-556	772.462500	802.462500
	General Use	Voice 25KHz	605-608	772.787500	802.787500
	General Use	Voice 25KHz	669-672	773.187500	803.187500
	General Use	Voice 25KHz	745-748	773.662500	803.662500
	General Use	Voice 25KHz	785-788	773.912500	803.912500
	General Use	Voice 25KHz	833-836	774.212500	804.212500
	General Use	Voice 25KHz	901-904	774.637500	804.637500
	General Use	Voice 25KHz	941-944	774.887500	804.887500
Meade	General Use	Voice 25KHz	97-100	769.612500	799.612500
	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	249-252	770.562500	800.562500
	General Use	Voice 25KHz	393-396	771.462500	801.462500
	General Use	Voice 25KHz	461-464	771.887500	801.887500
	General Use	Voice 25KHz	601-604	772.762500	802.762500
	General Use	Voice 25KHz	709-712	773.437500	803.437500
	General Use	Voice 25KHz	941-944	774.887500	804.887500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

Miami	General Use	Voice 25KHz	121-124	769.762500	799.762500
	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	253-256	770.587500	800.587500
	General Use	Voice 25KHz	453-456	771.837500	801.837500
	General Use	Voice 25KHz	497-500	772.112500	802.112500
	General Use	Voice 25KHz	553-556	772.462500	802.462500
	General Use	Voice 25KHz	625-628	772.912500	802.912500
	General Use	Voice 25KHz	749-752	773.687500	803.687500
	General Use	Voice 25KHz	789-792	773.937500	803.937500
Mitchell	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	341-344	771.137500	801.137500
	General Use	Voice 25KHz	381-384	771.387500	801.387500
	General Use	Voice 25KHz	449-452	771.812500	801.812500
	General Use	Voice 25KHz	501-504	772.137500	802.137500
	General Use	Voice 25KHz	617-620	772.862500	802.862500
	General Use	Voice 25KHz	785-788	773.912500	803.912500
	General Use	Voice 25KHz	869-872	774.437500	804.437500
	General Use	Voice 25KHz	913-916	774.712500	804.712500
Montgomery	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	217-220	770.362500	800.362500
	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	321-324	771.012500	801.012500
	General Use	Voice 25KHz	381-384	771.387500	801.387500
	General Use	Voice 25KHz	433-436	771.712500	801.712500
	General Use	Voice 25KHz	481-484	772.012500	802.012500
	General Use	Voice 25KHz	537-540	772.362500	802.362500
	General Use	Voice 25KHz	585-588	772.662500	802.662500
	General Use	Voice 25KHz	633-636	772.962500	802.962500
	General Use	Voice 25KHz	717-720	773.487500	803.487500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
	General Use	Voice 25KHz	909-912	774.687500	804.687500
Morris	General Use	Voice 25KHz	285-288	770.787500	800.787500
	General Use	Voice 25KHz	333-336	771.087500	801.087500
	General Use	Voice 25KHz	381-384	771.387500	801.387500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	485-488	772.037500	802.037500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
Morton	General Use	Voice 25KHz	41-44	769.262500	799.262500
	General Use	Voice 25KHz	81-84	769.512500	799.512500
	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	361-364	771.262500	801.262500
	General Use	Voice 25KHz	409-412	771.562500	801.562500
	General Use	Voice 25KHz	457-460	771.862500	801.862500
	General Use	Voice 25KHz	561-564	772.512500	802.512500
	General Use	Voice 25KHz	625-628	772.912500	802.912500
	General Use	Voice 25KHz	673-676	773.212500	803.212500
Nemaha	General Use	Voice 25KHz	13-16	769.087500	799.087500
	General Use	Voice 25KHz	121-124	769.762500	799.762500
	General Use	Voice 25KHz	165-168	770.037500	800.037500
	General Use	Voice 25KHz	413-416	771.587500	801.587500
	General Use	Voice 25KHz	453-456	771.837500	801.837500
	General Use	Voice 25KHz	493-496	772.087500	802.087500
	General Use	Voice 25KHz	545-548	772.412500	802.412500
	General Use	Voice 25KHz	593-596	772.712500	802.712500
	General Use	Voice 25KHz	745-748	773.662500	803.662500
	General Use	Voice 25KHz	901-904	774.637500	804.637500
Neosho	General Use	Voice 25KHz	41-44	769.262500	799.262500
	General Use	Voice 25KHz	165-168	770.037500	800.037500
	General Use	Voice 25KHz	257-260	770.612500	800.612500
	General Use	Voice 25KHz	365-368	771.287500	801.287500
	General Use	Voice 25KHz	413-416	771.587500	801.587500
	General Use	Voice 25KHz	453-456	771.837500	801.837500
	General Use	Voice 25KHz	525-528	772.287500	802.287500
	General Use	Voice 25KHz	625-628	772.912500	802.912500
	General Use	Voice 25KHz	793-796	773.962500	803.962500
Ness	General Use	Voice 25KHz	81-84	769.512500	799.512500
	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	373-376	771.337500	801.337500
	General Use	Voice 25KHz	433-436	771.712500	801.712500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	537-540	772.362500	802.362500
	General Use	Voice 25KHz	593-596	772.712500	802.712500
	General Use	Voice 25KHz	745-748	773.662500	803.662500
	General Use	Voice 25KHz	793-796	773.962500	803.962500
Norton	General Use	Voice 25KHz	49-52	769.312500	799.312500
	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	333-336	771.087500	801.087500
	General Use	Voice 25KHz	377-380	771.362500	801.362500
	General Use	Voice 25KHz	421-424	771.637500	801.637500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	525-528	772.287500	802.287500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
	General Use	Voice 25KHz	749-752	773.687500	803.687500
	General Use	Voice 25KHz	837-840	774.237500	804.237500
	General Use	Voice 25KHz	913-916	774.712500	804.712500
Osage	General Use	Voice 25KHz	161-164	770.012500	800.012500
	General Use	Voice 25KHz	201-204	770.262500	800.262500
	General Use	Voice 25KHz	365-368	771.287500	801.287500
	General Use	Voice 25KHz	405-408	771.537500	801.537500
	General Use	Voice 25KHz	461-464	771.887500	801.887500
	General Use	Voice 25KHz	577-580	772.612500	802.612500
	General Use	Voice 25KHz	629-632	772.937500	802.937500
	General Use	Voice 25KHz	677-680	773.237500	803.237500
	General Use	Voice 25KHz	913-916	774.712500	804.712500
Osborne	General Use	Voice 25KHz	81-84	769.512500	799.512500
	General Use	Voice 25KHz	121-124	769.762500	799.762500
	General Use	Voice 25KHz	201-204	770.262500	800.262500
	General Use	Voice 25KHz	289-292	770.812500	800.812500
	General Use	Voice 25KHz	361-364	771.262500	801.262500
	General Use	Voice 25KHz	433-436	771.712500	801.712500
	General Use	Voice 25KHz	493-496	772.087500	802.087500
	General Use	Voice 25KHz	541-544	772.387500	802.387500
	General Use	Voice 25KHz	629-632	772.937500	802.937500
Ottawa	General Use	Voice 25KHz	257-260	770.612500	800.612500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	297-300	770.862500	800.862500
	General Use	Voice 25KHz	357-360	771.237500	801.237500
	General Use	Voice 25KHz	405-408	771.537500	801.537500
	General Use	Voice 25KHz	477-480	771.987500	801.987500
	General Use	Voice 25KHz	549-552	772.437500	802.437500
	General Use	Voice 25KHz	601-604	772.762500	802.762500
	General Use	Voice 25KHz	757-760	773.737500	803.737500
Pawnee	General Use	Voice 25KHz	97-100	769.612500	799.612500
	General Use	Voice 25KHz	249-252	770.562500	800.562500
	General Use	Voice 25KHz	293-296	770.837500	800.837500
	General Use	Voice 25KHz	405-408	771.537500	801.537500
	General Use	Voice 25KHz	461-464	771.887500	801.887500
	General Use	Voice 25KHz	505-508	772.162500	802.162500
	General Use	Voice 25KHz	617-620	772.862500	802.862500
	General Use	Voice 25KHz	709-712	773.437500	803.437500
	General Use	Voice 25KHz	753-756	773.712500	803.712500
	General Use	Voice 25KHz	829-832	774.187500	804.187500
	General Use	Voice 25KHz	869-872	774.437500	804.437500
Phillips	General Use	Voice 25KHz	41-44	769.262500	799.262500
	General Use	Voice 25KHz	249-252	770.562500	800.562500
	General Use	Voice 25KHz	473-476	771.962500	801.962500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	597-600	772.737500	802.737500
	General Use	Voice 25KHz	669-672	773.187500	803.187500
	General Use	Voice 25KHz	709-712	773.437500	803.437500
	General Use	Voice 25KHz	781-784	773.887500	803.887500
	General Use	Voice 25KHz	821-824	774.137500	804.137500
	General Use	Voice 25KHz	905-908	774.662500	804.662500
Pottawatomie	General Use	Voice 25KHz	57-60	769.362500	799.362500
	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	357-360	771.237500	801.237500
	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	501-504	772.137500	802.137500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	633-636	772.962500	802.962500
	General Use	Voice 25KHz	673-676	773.212500	803.212500
	General Use	Voice 25KHz	785-788	773.912500	803.912500
	General Use	Voice 25KHz	917-920	774.737500	804.737500
Pratt	General Use	Voice 25KHz	81-84	769.512500	799.512500
	General Use	Voice 25KHz	173-176	770.087500	800.087500
	General Use	Voice 25KHz	329-332	771.062500	801.062500
	General Use	Voice 25KHz	373-376	771.337500	801.337500
	General Use	Voice 25KHz	433-436	771.712500	801.712500
	General Use	Voice 25KHz	501-504	772.137500	802.137500
	General Use	Voice 25KHz	549-552	772.437500	802.437500
	General Use	Voice 25KHz	601-604	772.762500	802.762500
	General Use	Voice 25KHz	745-748	773.662500	803.662500
	General Use	Voice 25KHz	901-904	774.637500	804.637500
	General Use	Voice 25KHz	941-944	774.887500	804.887500
Rawlins	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	393-396	771.462500	801.462500
	General Use	Voice 25KHz	509-512	772.187500	802.187500
	General Use	Voice 25KHz	709-712	773.437500	803.437500
	General Use	Voice 25KHz	901-904	774.637500	804.637500
	General Use	Voice 25KHz	941-944	774.887500	804.887500
Reno	General Use	Voice 25KHz	13-16	769.087500	799.087500
	General Use	Voice 25KHz	53-56	769.337500	799.337500
	General Use	Voice 25KHz	93-96	769.587500	799.587500
	General Use	Voice 25KHz	133-136	769.837500	799.837500
	General Use	Voice 25KHz	217-220	770.362500	800.362500
	General Use	Voice 25KHz	257-260	770.612500	800.612500
	General Use	Voice 25KHz	297-300	770.862500	800.862500
	General Use	Voice 25KHz	345-348	771.162500	801.162500
	General Use	Voice 25KHz	417-420	771.612500	801.612500
	General Use	Voice 25KHz	489-492	772.062500	802.062500
	General Use	Voice 25KHz	529-532	772.312500	802.312500
	General Use	Voice 25KHz	569-572	772.562500	802.562500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	637-640	772.987500	802.987500
	General Use	Voice 25KHz	713-716	773.462500	803.462500
	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	797-800	773.987500	803.987500
	General Use	Voice 25KHz	873-876	774.462500	804.462500
	General Use	Voice 25KHz	913-916	774.712500	804.712500
Republic	General Use	Voice 25KHz	13-16	769.087500	799.087500
	General Use	Voice 25KHz	85-88	769.537500	799.537500
	General Use	Voice 25KHz	293-296	770.837500	800.837500
	General Use	Voice 25KHz	333-336	771.087500	801.087500
	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	461-464	771.887500	801.887500
	General Use	Voice 25KHz	509-512	772.187500	802.187500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
	General Use	Voice 25KHz	821-824	774.137500	804.137500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
Rice	General Use	Voice 25KHz	177-180	770.112500	800.112500
	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	333-336	771.087500	801.087500
	General Use	Voice 25KHz	381-384	771.387500	801.387500
	General Use	Voice 25KHz	445-448	771.787500	801.787500
	General Use	Voice 25KHz	521-524	772.262500	802.262500
	General Use	Voice 25KHz	589-592	772.687500	802.687500
	General Use	Voice 25KHz	629-632	772.937500	802.937500
Riley	General Use	Voice 25KHz	45-48	769.287500	799.287500
	General Use	Voice 25KHz	89-92	769.562500	799.562500
	General Use	Voice 25KHz	133-136	769.837500	799.837500
	General Use	Voice 25KHz	205-208	770.287500	800.287500
	General Use	Voice 25KHz	253-256	770.587500	800.587500
	General Use	Voice 25KHz	329-332	771.062500	801.062500
	General Use	Voice 25KHz	369-372	771.312500	801.312500
	General Use	Voice 25KHz	409-412	771.562500	801.562500
	General Use	Voice 25KHz	457-460	771.862500	801.862500
	General Use	Voice 25KHz	525-528	772.287500	802.287500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	569-572	772.562500	802.562500
	General Use	Voice 25KHz	609-612	772.812500	802.812500
	General Use	Voice 25KHz	665-668	773.162500	803.162500
	General Use	Voice 25KHz	705-708	773.412500	803.412500
	General Use	Voice 25KHz	749-752	773.687500	803.687500
	General Use	Voice 25KHz	797-800	773.987500	803.987500
	General Use	Voice 25KHz	837-840	774.237500	804.237500
	General Use	Voice 25KHz	905-908	774.662500	804.662500
Rooks	General Use	Voice 25KHz	17-20	769.112500	799.112500
	General Use	Voice 25KHz	129-132	769.812500	799.812500
	General Use	Voice 25KHz	173-176	770.087500	800.087500
	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	345-348	771.162500	801.162500
	General Use	Voice 25KHz	409-412	771.562500	801.562500
	General Use	Voice 25KHz	549-552	772.437500	802.437500
	General Use	Voice 25KHz	621-624	772.887500	802.887500
	General Use	Voice 25KHz	789-792	773.937500	803.937500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
Rush	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	353-356	771.212500	801.212500
	General Use	Voice 25KHz	441-444	771.762500	801.762500
	General Use	Voice 25KHz	497-500	772.112500	802.112500
	General Use	Voice 25KHz	577-580	772.612500	802.612500
	General Use	Voice 25KHz	625-628	772.912500	802.912500
Russell	General Use	Voice 25KHz	245-248	770.537500	800.537500
	General Use	Voice 25KHz	393-396	771.462500	801.462500
	General Use	Voice 25KHz	457-460	771.862500	801.862500
	General Use	Voice 25KHz	533-536	772.337500	802.337500
	General Use	Voice 25KHz	585-588	772.662500	802.662500
	General Use	Voice 25KHz	637-640	772.987500	802.987500
	General Use	Voice 25KHz	705-708	773.412500	803.412500
	General Use	Voice 25KHz	749-752	773.687500	803.687500
	General Use	Voice 25KHz	797-800	773.987500	803.987500
Saline	General Use	Voice 25KHz	49-52	769.312500	799.312500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	97-100	769.612500	799.612500
	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	321-324	771.012500	801.012500
	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	437-440	771.737500	801.737500
	General Use	Voice 25KHz	509-512	772.187500	802.187500
	General Use	Voice 25KHz	573-576	772.587500	802.587500
	General Use	Voice 25KHz	613-616	772.837500	802.837500
	General Use	Voice 25KHz	661-664	773.137500	803.137500
	General Use	Voice 25KHz	701-704	773.387500	803.387500
	General Use	Voice 25KHz	793-796	773.962500	803.962500
	General Use	Voice 25KHz	865-868	774.412500	804.412500
	General Use	Voice 25KHz	917-920	774.737500	804.737500
Scott	General Use	Voice 25KHz	45-48	769.287500	799.287500
	General Use	Voice 25KHz	161-164	770.012500	800.012500
	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	369-372	771.312500	801.312500
	General Use	Voice 25KHz	441-444	771.762500	801.762500
	General Use	Voice 25KHz	493-496	772.087500	802.087500
	General Use	Voice 25KHz	533-536	772.337500	802.337500
	General Use	Voice 25KHz	601-604	772.762500	802.762500
	General Use	Voice 25KHz	665-668	773.162500	803.162500
	General Use	Voice 25KHz	705-708	773.412500	803.412500
	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	797-800	773.987500	803.987500
Sedgwick	General Use	Voice 25KHz	45-48	769.287500	799.287500
	General Use	Voice 25KHz	85-88	769.537500	799.537500
	General Use	Voice 25KHz	125-128	769.787500	799.787500
	General Use	Voice 25KHz	165-168	770.037500	800.037500
	General Use	Voice 25KHz	205-208	770.287500	800.287500
	General Use	Voice 25KHz	281-284	770.762500	800.762500
	General Use	Voice 25KHz	321-324	771.012500	801.012500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	377-380	771.362500	801.362500
	General Use	Voice 25KHz	441-444	771.762500	801.762500
	General Use	Voice 25KHz	497-500	772.112500	802.112500
	General Use	Voice 25KHz	537-540	772.362500	802.362500
	General Use	Voice 25KHz	581-584	772.637500	802.637500
	General Use	Voice 25KHz	625-628	772.912500	802.912500
	General Use	Voice 25KHz	677-680	773.237500	803.237500
	General Use	Voice 25KHz	749-752	773.687500	803.687500
	General Use	Voice 25KHz	789-792	773.937500	803.937500
	General Use	Voice 25KHz	865-868	774.412500	804.412500
	General Use	Voice 25KHz	905-908	774.662500	804.662500
	General Use	Voice 25KHz	945-948	774.912500	804.912500
Seward	General Use	Voice 25KHz	45-48	769.287500	799.287500
	General Use	Voice 25KHz	85-88	769.537500	799.537500
	General Use	Voice 25KHz	125-128	769.787500	799.787500
	General Use	Voice 25KHz	285-288	770.787500	800.787500
	General Use	Voice 25KHz	329-332	771.062500	801.062500
	General Use	Voice 25KHz	373-376	771.337500	801.337500
	General Use	Voice 25KHz	413-416	771.587500	801.587500
	General Use	Voice 25KHz	453-456	771.837500	801.837500
	General Use	Voice 25KHz	493-496	772.087500	802.087500
	General Use	Voice 25KHz	533-536	772.337500	802.337500
	General Use	Voice 25KHz	577-580	772.612500	802.612500
	General Use	Voice 25KHz	637-640	772.987500	802.987500
	General Use	Voice 25KHz	677-680	773.237500	803.237500
	General Use	Voice 25KHz	717-720	773.487500	803.487500
	General Use	Voice 25KHz	757-760	773.737500	803.737500
	General Use	Voice 25KHz	797-800	773.987500	803.987500
	General Use	Voice 25KHz	865-868	774.412500	804.412500
	General Use	Voice 25KHz	905-908	774.662500	804.662500
Shawnee	General Use	Voice 25KHz	49-52	769.312500	799.312500
	General Use	Voice 25KHz	93-96	769.587500	799.587500
	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	209-212	770.312500	800.312500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	257-260	770.612500	800.612500
	General Use	Voice 25KHz	297-300	770.862500	800.862500
	General Use	Voice 25KHz	337-340	771.112500	801.112500
	General Use	Voice 25KHz	377-380	771.362500	801.362500
	General Use	Voice 25KHz	421-424	771.637500	801.637500
	General Use	Voice 25KHz	469-472	771.937500	801.937500
	General Use	Voice 25KHz	529-532	772.312500	802.312500
	General Use	Voice 25KHz	585-588	772.662500	802.662500
	General Use	Voice 25KHz	661-664	773.137500	803.137500
	General Use	Voice 25KHz	709-712	773.437500	803.437500
	General Use	Voice 25KHz	753-756	773.712500	803.712500
	General Use	Voice 25KHz	793-796	773.962500	803.962500
	General Use	Voice 25KHz	833-836	774.212500	804.212500
	General Use	Voice 25KHz	873-876	774.462500	804.462500
	General Use	Voice 25KHz	945-948	774.912500	804.912500
Sheridan	General Use	Voice 25KHz	89-92	769.562500	799.562500
	General Use	Voice 25KHz	293-296	770.837500	800.837500
	General Use	Voice 25KHz	353-356	771.212500	801.212500
	General Use	Voice 25KHz	405-408	771.537500	801.537500
	General Use	Voice 25KHz	497-500	772.112500	802.112500
	General Use	Voice 25KHz	553-556	772.462500	802.462500
	General Use	Voice 25KHz	605-608	772.787500	802.787500
	General Use	Voice 25KHz	741-744	773.637500	803.637500
	General Use	Voice 25KHz	869-872	774.437500	804.437500
Sherman	General Use	Voice 25KHz	81-84	769.512500	799.512500
	General Use	Voice 25KHz	121-124	769.762500	799.762500
	General Use	Voice 25KHz	289-292	770.812500	800.812500
	General Use	Voice 25KHz	333-336	771.087500	801.087500
	General Use	Voice 25KHz	377-380	771.362500	801.362500
	General Use	Voice 25KHz	425-428	771.662500	801.662500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	521-524	772.262500	802.262500
	General Use	Voice 25KHz	577-580	772.612500	802.612500
	General Use	Voice 25KHz	633-636	772.962500	802.962500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	673-676	773.212500	803.212500
	General Use	Voice 25KHz	745-748	773.662500	803.662500
	General Use	Voice 25KHz	789-792	773.937500	803.937500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
Smith	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	417-420	771.612500	801.612500
	General Use	Voice 25KHz	481-484	772.012500	802.012500
	General Use	Voice 25KHz	577-580	772.612500	802.612500
	General Use	Voice 25KHz	661-664	773.137500	803.137500
	General Use	Voice 25KHz	701-704	773.387500	803.387500
	General Use	Voice 25KHz	741-744	773.637500	803.637500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
	General Use	Voice 25KHz	945-948	774.912500	804.912500
Stafford	General Use	Voice 25KHz	389-392	771.437500	801.437500
	General Use	Voice 25KHz	481-484	772.012500	802.012500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	609-612	772.812500	802.812500
	General Use	Voice 25KHz	673-676	773.212500	803.212500
	General Use	Voice 25KHz	821-824	774.137500	804.137500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
Stanton	General Use	Voice 25KHz	49-52	769.312500	799.312500
	General Use	Voice 25KHz	217-220	770.362500	800.362500
	General Use	Voice 25KHz	501-504	772.137500	802.137500
	General Use	Voice 25KHz	553-556	772.462500	802.462500
	General Use	Voice 25KHz	605-608	772.787500	802.787500
	General Use	Voice 25KHz	741-744	773.637500	803.637500
Stevens	General Use	Voice 25KHz	161-164	770.012500	800.012500
	General Use	Voice 25KHz	201-204	770.262500	800.262500
	General Use	Voice 25KHz	241-244	770.512500	800.512500
	General Use	Voice 25KHz	353-356	771.212500	801.212500
	General Use	Voice 25KHz	425-428	771.662500	801.662500
	General Use	Voice 25KHz	465-468	771.912500	801.912500
	General Use	Voice 25KHz	569-572	772.562500	802.562500
	General Use	Voice 25KHz	617-620	772.862500	802.862500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

Sumner	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	365-368	771.287500	801.287500
	General Use	Voice 25KHz	425-428	771.662500	801.662500
	General Use	Voice 25KHz	553-556	772.462500	802.462500
	General Use	Voice 25KHz	609-612	772.812500	802.812500
	General Use	Voice 25KHz	669-672	773.187500	803.187500
	General Use	Voice 25KHz	717-720	773.487500	803.487500
	General Use	Voice 25KHz	829-832	774.187500	804.187500
Thomas	General Use	Voice 25KHz	41-44	769.262500	799.262500
	General Use	Voice 25KHz	97-100	769.612500	799.612500
	General Use	Voice 25KHz	137-140	769.862500	799.862500
	General Use	Voice 25KHz	205-208	770.287500	800.287500
	General Use	Voice 25KHz	245-248	770.537500	800.537500
	General Use	Voice 25KHz	325-328	771.037500	801.037500
	General Use	Voice 25KHz	365-368	771.287500	801.287500
	General Use	Voice 25KHz	413-416	771.587500	801.587500
	General Use	Voice 25KHz	457-460	771.862500	801.862500
	General Use	Voice 25KHz	529-532	772.312500	802.312500
	General Use	Voice 25KHz	597-600	772.737500	802.737500
	General Use	Voice 25KHz	661-664	773.137500	803.137500
	General Use	Voice 25KHz	753-756	773.712500	803.712500
	General Use	Voice 25KHz	877-880	774.487500	804.487500
	General Use	Voice 25KHz	917-920	774.737500	804.737500
Trego	General Use	Voice 25KHz	329-332	771.062500	801.062500
	General Use	Voice 25KHz	381-384	771.387500	801.387500
	General Use	Voice 25KHz	449-452	771.812500	801.812500
	General Use	Voice 25KHz	513-516	772.212500	802.212500
	General Use	Voice 25KHz	633-636	772.962500	802.962500
	General Use	Voice 25KHz	701-704	773.387500	803.387500
	General Use	Voice 25KHz	833-836	774.212500	804.212500
	General Use	Voice 25KHz	941-944	774.887500	804.887500
Wabaunsee	General Use	Voice 25KHz	217-220	770.362500	800.362500
	General Use	Voice 25KHz	437-440	771.737500	801.737500
	General Use	Voice 25KHz	549-552	772.437500	802.437500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	597-600	772.737500	802.737500
	General Use	Voice 25KHz	741-744	773.637500	803.637500
Wallace	General Use	Voice 25KHz	349-352	771.187500	801.187500
	General Use	Voice 25KHz	445-448	771.787500	801.787500
	General Use	Voice 25KHz	501-504	772.137500	802.137500
	General Use	Voice 25KHz	557-560	772.487500	802.487500
	General Use	Voice 25KHz	605-608	772.787500	802.787500
Washington	General Use	Voice 25KHz	161-164	770.012500	800.012500
	General Use	Voice 25KHz	321-324	771.012500	801.012500
	General Use	Voice 25KHz	377-380	771.362500	801.362500
	General Use	Voice 25KHz	417-420	771.612500	801.612500
	General Use	Voice 25KHz	497-500	772.112500	802.112500
	General Use	Voice 25KHz	537-540	772.362500	802.362500
	General Use	Voice 25KHz	589-592	772.687500	802.687500
	General Use	Voice 25KHz	713-716	773.462500	803.462500
	General Use	Voice 25KHz	861-864	774.387500	804.387500
Wichita	General Use	Voice 25KHz	201-204	770.262500	800.262500
	General Use	Voice 25KHz	249-252	770.562500	800.562500
	General Use	Voice 25KHz	417-420	771.612500	801.612500
	General Use	Voice 25KHz	469-472	771.937500	801.937500
	General Use	Voice 25KHz	509-512	772.187500	802.187500
	General Use	Voice 25KHz	549-552	772.437500	802.437500
	General Use	Voice 25KHz	593-596	772.712500	802.712500
Wilson	General Use	Voice 25KHz	85-88	769.537500	799.537500
	General Use	Voice 25KHz	129-132	769.812500	799.812500
	General Use	Voice 25KHz	205-208	770.287500	800.287500
	General Use	Voice 25KHz	373-376	771.337500	801.337500
	General Use	Voice 25KHz	421-424	771.637500	801.637500
	General Use	Voice 25KHz	565-568	772.537500	802.537500
	General Use	Voice 25KHz	613-616	772.837500	802.837500
	General Use	Voice 25KHz	677-680	773.237500	803.237500
Woodson	General Use	Voice 25KHz	213-216	770.337500	800.337500
	General Use	Voice 25KHz	469-472	771.937500	801.937500
	General Use	Voice 25KHz	513-516	772.212500	802.212500

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Region 16 (Kansas) 700 MHz General Use Channel Assignment

	General Use	Voice 25KHz	637-640	772.987500	802.987500
	General Use	Voice 25KHz	753-756	773.712500	803.712500
	General Use	Voice 25KHz	945-948	774.912500	804.912500
Wyandotte	General Use	Voice 25KHz	353-356	771.212500	801.212500
	General Use	Voice 25KHz	397-400	771.487500	801.487500
	General Use	Voice 25KHz	437-440	771.737500	801.737500
	General Use	Voice 25KHz	493-496	772.087500	802.087500
	General Use	Voice 25KHz	541-544	772.387500	802.387500
	General Use	Voice 25KHz	581-584	772.637500	802.637500
	General Use	Voice 25KHz	621-624	772.887500	802.887500
	General Use	Voice 25KHz	797-800	773.987500	803.987500

APPENDIX M

Region 16 (Kansas)
Memorandum of Understanding

SUBJECT: Memorandum of Understanding for agencies to operate FCC designated 700 MHz Interoperability channels

This memorandum of understanding (hereafter referred to as MOU) shall be submitted by _____ (hereafter referred to as APPLICANT) representing a public safety agency indicating compliance and agreement with the attached operational and technical guidelines for the use of the FCC designated 700MHz Interoperability Channels. By virtue of signing and submitting this MOU, APPLICANT affirms its willingness to comply with the proper operation of the interoperability channels.

The APPLICANT shall abide by the conditions of this MOU, which are as follows:

- To operate by all applicable Federal, State, County, and City laws/ordinances.
- To utilize "plain language" for all transmissions.
- To monitor the Calling Channel(s) at an incident and coordinate the use of the tactical channels.
- To identify inappropriate use and mitigate the same from occurring in the future.
- To mitigate contention for channels by exercising the Priority Levels identified in this MOU.
- To share channels between all qualified public safety entities without respect to discipline and not monopolize the use of any channel.

The preceding conditions are some of the primary requirements for operation of these interoperability channels. They are not a complete list and applicants are referred to the complete SIEC guidelines (attached) for the complete list of operational and technical requirements.

The applicant agency will use these interoperability channels with _____ (**number of mobile/portable units)** and will notify the Region 16 (Kansas) RPC if the number of radios programmed increases by more than 10% of the number of units listed above.

Priority Levels:

1. Disaster or extreme emergency operation for mutual aid and inter-agency 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. Joint training evolutions (these channels do not qualify for use by single agencies for their secondary communications purposes)

APPENDIX M

To resolve contention within the same priority, assuming all radio equipment is exercising the lowest output and effective radiated power level practicable, the channel should go to the organization with the wider span of control/authority. This shall be determined by Region 16 RPC, or by the levels of authority/government identified in the contention.

For clarification purposes, and as an aid to facilitate inter-agency on scene communications, any fixed base or mobile relay stations utilized for temporary locations (FCC station class FBT or FB2T, respectively), shall, utilize power levels sufficient to effect the necessary operation.

Any violation of this MOU or FCC Rule shall be addressed immediately. The first level of resolution escalation shall be between the parties involved, next the Region 16 (Kansas) RPC, and finally the FCC.

Chairperson, Region 16 (Kansas) RPC **Date**

Applicant/Agency **Date**

Appendices

Appendix A	Committee Membership
Appendix B	County and City Data
Appendix C	Region 16 (Kansas)
Appendix D	Population Data
Appendix E	User Agreements
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Appendix I	700 MHz Pre-Assignment Rules
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Appendix K	Table of Interoperability Channels
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