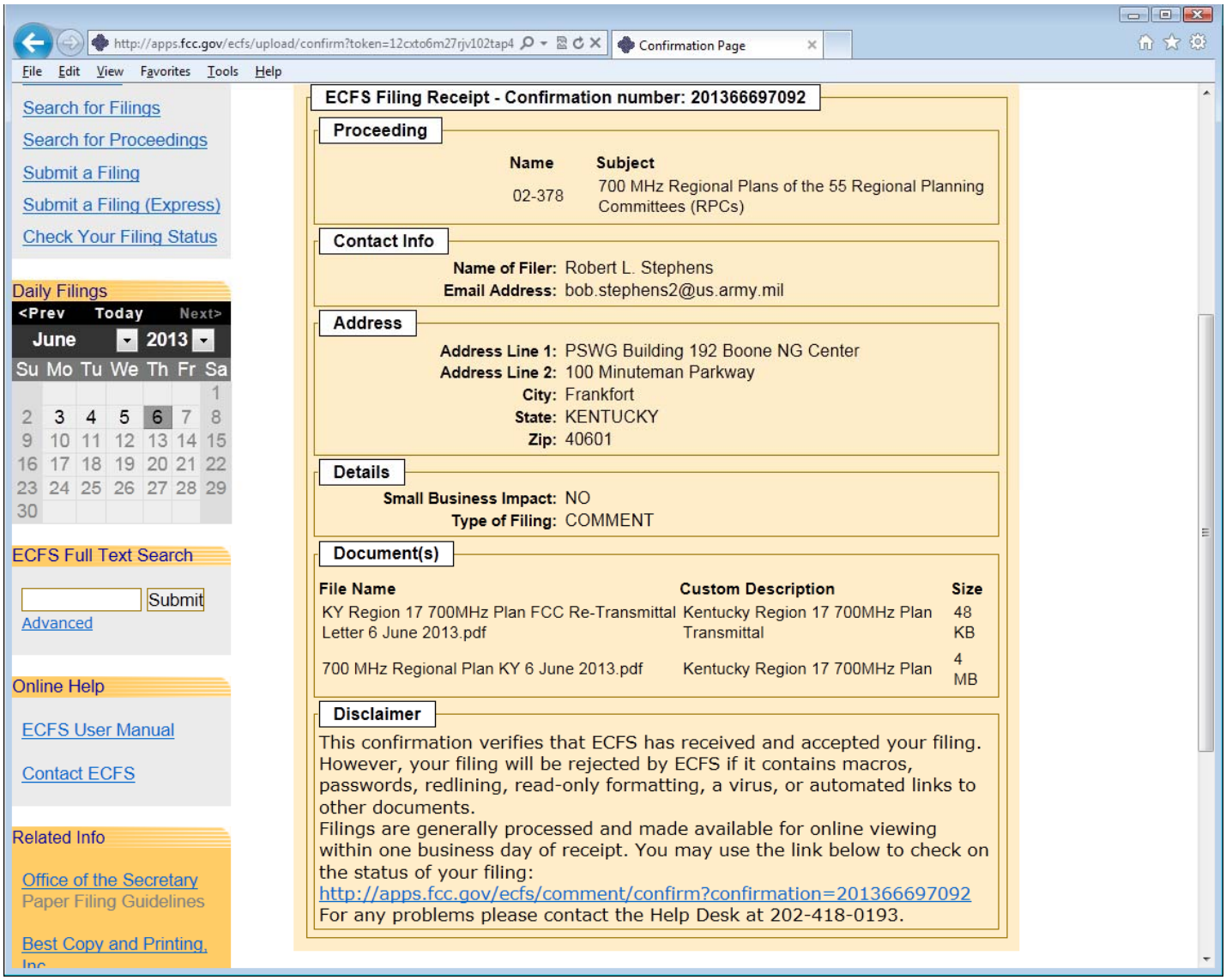
FCC Electronic Filing Document KY 700MHz Plan Re-Filing After Administrative Changes



REGION 17
700 MHz RPC AND PUBLIC SAFETY WORKING GROUP
Kentucky Wireless Interoperability Executive Committee

Steven L. Beshear
Governor

Department of Military Affairs
Kentucky Emergency Management
Boone National Guard Center
Frankfort, KY 40601-6168

Robert L. Stephens
Convener & Co-Chair
502-607-1617
robert.l.stephens64.nfg@mail.mil

June 6, 2013

Ms. Marlene H. Dortch
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Washington, DC 20554

Reference: FCC Docket 02-378 - Kentucky Region 17 700 MHz Plan Submission for FCC Approval

Dear Ms Dortch:

Enclosed is the Region 17 (Kentucky) 700 MHZ Plan for FCC Approval. The attached 700MHz Plan is being re-filed after minor changes were made that were recommended by your staff. The Public Safety Working Group, Region 17 700 RPC, of the Kentucky Wireless Interoperability Executive Committee (KWIEC) respectfully requests that the FCC review and approve the attached plan.

The Kentucky Wireless Interoperability Executive Committee at their quarterly meeting on September 28, 2012 in Frankfort, Kentucky formally approved this 700MHz Plan.

Sincerely:

Robert L. Stephens
Co-Chair, Region 17 Kentucky

CC: Mr. Derek Nesselrode KSP
Jeannie Benfaida FCC
David Furth FCC
John Evanoff FCC

Kentucky
UNBRIDLED SPIRIT™

Region 17 - 700MHz Plan

TABLE OF CONTENTS

1.0 Plan Introduction and Summary

Introduction

This is the 700 MHz Regional Plan for Region 17 (Kentucky). The purpose of the Regional Plan is to insure that maximum public benefit is derived from use of the 700 MHz spectrum by eligible agencies. Further, the plan was developed to guide eligible entities through the application process and provide an equitable means of settling disputes concerning frequency allocations should they arise.

Regional Plan Summary

First, Region 17 is defined as the entire Commonwealth of Kentucky. The broad classifications of entities eligible to apply for spectrum are defined in accord with FCC definitions. To garner their participation in and support of the planning process, an attempt was made to contact all eligible agencies. These attempts are documented. A discussion follows of the process by which the initial spectrum allocation was made. Finally, a detailed discussion of the application process is given. This includes guidelines for spectrum use, application requirements, and the application review process and dispute resolution. Also included is a discussion of the future planning process.

The Region 17 Committee accepts the Computer Assisted Pre-Coordination Resource and Database (CAPRAD) database initial allocation based on population density and call volume by county. The Committee will use the CAPRAD database when allocating frequency resources in Region 17. It will be understood that service to a desired area in a wide area system may best be accomplished by facilities in an adjacent county. Therefore, a “County”, as defined by the CAPRAD sort and other applicable rules, shall be defined as the Subject County plus 10 miles into an adjacent county. This will permit the use of a tower location that is not physically located in the subject county but will provide substantial service to the subject county.

Interoperability guidelines and usage must be in accordance with the requirements of the Kentucky Wireless Interoperability Executive Committee (KWIEC).

2.0 Regional Planning Committee Leadership

At the time of transmittal of this Plan to the FCC, the following individuals serve in leadership roles in the Region 17 Regional Planning Committee (RPC):

Co-Chair: Robert L. Stephens
Convener Kentucky Emergency Management
J6 Wireless Communications
100 Minuteman Parkway
Frankfort, KY 40601
Phone: 502-607-1617
Email: robert.l.stephens64.nfg@mail.mil
cyberobert@gmail.com

Co-Chair: Derek Nesselrode
Kentucky State Police
1240 Airport Road
Frankfort, KY 40601
Phone: 502-227-8750
Email: derek.nesselrode@ky.gov

The Officers of the PSWG aka KY Region 17 Regional Planning Committee are appointed by the chair of the Kentucky Wireless Interoperability Executive Committee (KWIEC) by Kentucky Revised Statutes. The Region 17 RPC does not manage a budget nor is it authorized to solicit any funds.

- Providing notice to the FCC of the changes
- Providing notice to the National Regional Planning Council (NRPC) of the changes
- Providing notice to the NPSTC Support Office of the changes
- Modifying the Region 17 web site http://www.kwiec.ky.gov/interoperability/Public+Safety+Working+Group/ to reflect the changes.

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

3.0 Regional Planning Committee Membership

Membership in the Region 17 Regional Planning Committee is open to any interested party who has an active role in public safety communications. The Chair of the KWIEC shall appoint to the Regional Committee any such person with an active role in public safety communicatins as may apply for membership. Region 17 Planning Committee is also known as the Kentucky Public Safety Working Group (PSWG) and is organized as a standing committee of The Kentucky Wireless Interoperability Executive Committee (KWIEC). The Chair and/or Co-Chair of the PSWG shall serve as the Region 17 700 MHz Planning Committee Convener(s) and are appointed by the Chairperson of the KWIEC. By legislation, the

Chair of the KWIEC is the Chief Information Officer of the Commonwealth of Kentucky. Officer requirements are published in Kentucky Revised Statutes as shown below.

3.1 KENTUCKY REVISED STATUTES

42.738 Statewide public safety interoperability plan -- Annual report by chief information officer -- Duties of Kentucky Wireless Interoperability Executive Committee -- Membership -- Public Safety Working Group.

(1) The executive director shall establish and implement a statewide public safety interoperability plan. This plan shall include the development of required architecture and standards that will insure that new or upgraded Commonwealth public safety communications systems will interoperate. The Kentucky Wireless Interoperability Executive Committee shall be responsible for the evaluation and recommendation of all wireless communications architecture, standards, and strategies. The executive director shall provide direction, stewardship, leadership, and general oversight of information technology and information resources. The executive director shall report by September 15 annually to the Interim Joint Committee on Seniors, Veterans, Military Affairs, and Public Protection and the Interim Joint Committee on State Government on progress and activity by agencies of the Commonwealth to comply with standards to achieve public safety communications interoperability.

(2) The Kentucky Wireless Interoperability Executive Committee shall serve as the advisory body for all wireless communications strategies presented by agencies of the Commonwealth and local governments. All state agencies in the Commonwealth shall present all project plans for primary wireless public safety voice or data communications systems for review and recommendation by the committee, and the committee shall forward the plans to the executive director for final approval. Local government entities shall present project plans for primary wireless public safety voice or data communications systems for review and recommendation by the Kentucky Wireless Interoperability Executive Committee.

(3) The committee shall develop funding and support plans that provide for the maintenance of and technological upgrades to the public safety shared infrastructure, and shall make recommendations to the executive director, the Governor's Office for Policy and Management, and the General Assembly.

(4) The executive director shall examine the project plans for primary wireless public safety voice or data communications systems of state agencies as required by subsection (2) of this section, and shall determine whether they meet the required architecture and standards for primary wireless public safety voice or data communications systems.

(5) The Kentucky Wireless Interoperability Executive Committee shall consist of twenty (20) members as follows:

(a) A person knowledgeable in the field of wireless communications appointed by the executive director who shall serve as chair;

(b) The executive director of the Office of Infrastructure Services, Commonwealth Office of Technology;

(c) The executive director of Kentucky Educational Television, or the executive director's designee;

(d) The chief information officer of the Transportation Cabinet;

(e) The chief information officer of the Justice and Public Safety Cabinet;

(f) The chief information officer of the Department of Kentucky State Police;

(g) The commissioner of the Department of Fish and Wildlife Resources, or the commissioner's designee;

(h) The chief information officer of the Energy and Environment Cabinet;

(i) The director of the Division of Emergency Management, Department of Military Affairs;

(j) The executive director of the Kentucky Office of Homeland Security;

(k) The chief information officer, Department for Public Health, Cabinet for Health and Family Services;

(l) A representative from an institution of postsecondary education appointed by the Governor from a list of three (3) names submitted by the president of the Council on Postsecondary Education;

(m) The executive director of the Center for Rural Development, or the executive director's designee;

(n) A representative from a municipal government to be appointed by the Governor from a list of three (3) names submitted by the Kentucky League of Cities;

(o) A representative from a county government to be appointed by the Governor from a list of three (3) names submitted by the Kentucky Association of Counties;

(p) A representative from a municipal police department to be appointed by the Governor from a list of three (3) names submitted by the Kentucky Association of Chiefs of Police;

(q) A representative from a local fire department to be appointed by the Governor from a list of three (3) names submitted by the Kentucky Association of Fire Chiefs;

(r) A representative from a county sheriff's department to be appointed by the Governor from a list of three (3) names submitted by the Kentucky Sheriffs' Association;

(s) A representative from a local Emergency Medical Services agency to be appointed by the Governor from a list of three (3) names submitted by the Kentucky Board of Emergency Medical Services; and

(t) A representative from a local 911 dispatch center to be appointed by the Governor from a list of three (3) names submitted by the Kentucky Chapter of the National Emergency Number Association/Association of Public Safety Communications Officials.

(6) Appointed members of the committee shall serve for a two (2) year term. Members who serve by virtue of an office shall serve on the committee while they hold that office.

(7) The committee shall meet quarterly, or as often as necessary for the conduct of its business. A majority of the members shall constitute a quorum for the transaction of business. Members' designees shall have voting privileges at committee meetings.

(8) The committee shall be attached to the Commonwealth Office of Technology for administrative purposes only. Members shall not be paid and shall not be reimbursed for travel expenses.

(9) The Public Safety Working Group is hereby created for the primary purpose of fostering cooperation, planning, and development of the public safety frequency spectrum as regulated by the Federal Communications Commission, including the 700 MHz public safety band. The group shall endeavor to bring about a seamless, coordinated, and integrated public safety communications network for the safe, effective, and efficient protection of life and property. The Public Safety Working Group membership and other working group memberships deemed necessary shall be appointed by the chair of the Kentucky Wireless Interoperability Executive Committee.

(10) The committee may establish additional working groups as determined by the KWIEC.

4.0 Regional Profile

Region 17 encompasses the entire Commonwealth of Kentucky, consisting of 120 counties.

The Commonwealth of Kentucky has diverse geography and a varied population base. Ground elevations in Kentucky vary from 257 feet AMSL in the Mississippi River in the far western part of the state to 4145 feet AMSL on Black Mountain in the far eastern part of the state. The state is home to the world’s largest cave system. Kentucky is bordered on the north by the Ohio River, the Mississippi River to the west and the Big Sandy and Tug Fork Rivers to the east.

The Commonwealth ranks 37th in land size with 39,732 square miles. The 2010 census revealed a population of 4,339,367. The major cities in Kentucky are:

- Louisville
- Lexington
- Owensboro
- Bowling Green
- Covington
- Hopkinsville
- Frankfort
- Henderson
- Richmond
- Jeffersontown
- Paducah

Louisville, Covington and Paducah are adjacent on the state borders and require coordination with adjacent 700 MHz Regions when attempting frequency allocations in these more densely populated areas.

Kentucky has 17 state resort parks, 24 state recreational parks and 5 National Parks.

The following military facilities are located in Region 17:

Fort Campbell

Fort Knox

Blue Grass Army Depot

Wendell H. Ford Regional Training Center

Boone National Guard Center

There are 12.7 million acres of commercial forest land in the commonwealth; Kentucky ranks third in among hardwood producing states. Natural resources include coal, crushed stone, natural gas and petroleum. Kentucky is the nation's third largest coal producer.

According to statistics developed in 2005, Kentucky had 84,000 farms with an average size of 164 acres. The commonwealth is home to some of the world's leading thoroughbred farms and thoroughbred auctions. Kentucky is the top producer of burley tobacco; ranks in the top 20 in production of corn, soybeans, hay, barley, sorghum and winter wheat. The state is the top beef producer east of the Mississippi and ranks eighth in the nation overall. Kentucky farmers also produce broilers, swine, goats, dairy cows and eggs.

Region 17 has 7 adjacent Regions and 1 non border region. They are as follows:

Region 4	Arkansas	Non Border
Region 13	Illinois	Border
Region 14	Indiana	Border
Region 24	Missouri	Border
Region 33	Ohio	Border
Region 39	Tennessee	Border
Region 42	Virginia	Border
Region 44	West Virginia	Border

County allotments for 700 MHz frequencies have been developed based on population densities relative to adjacent Regions.

5.0 Notification Process and Original Meeting

Region 17 held its first 700 MHz meeting on February 15, 2002. Notice of the first meeting was accomplished by posting on websites within the public safety community and email notifications to fire, police, emergency management, and federal agencies within the state. There are no federally recognized Native American tribes in Kentucky. Sixty days notice was given prior to the first meeting. Draft minutes of this meeting are included in this plan, however the official minutes and attendees are not available. . During this meeting Robert Stephens, of the Kentucky Division of Emergency Management was elected the first Region 17, KY 700MHz RPC Chair. During this meeting as well as all subsequent meetings an open floor for comments was observe

REGION 17 Draft

700 MHz PUBLIC SAFETY WORKING GROUP
FEBRUARY 15, 2002
Holiday Inn – Capital Plaza
405 Wilkinson Blvd.
Frankfort, Kentucky

- **Introduction by Aldona Valicenti**, Kentucky Chief Information Officer
  Aldona's Talking Points can be found at: http://www.gotsource.net/dscgi/ds.py/View/Collection-2419

  - Overview of 700 MHz Initiative by Bob Stephens
    Power Point presentation available at: http://www.gotsource.net/dscgi/ds.py/View/Collection-2419

- **Organizational Business**
  Mary Vaughn provided an overview of the Wireless Steering Committee and the Wireless Strategic Plan as they relate to the creation of the Public Safety Working Group. She also reviewed the 700 MHz application process and the appointment of the interim Chair/Convener Bob Stephens and the initial committee membership. She encouraged agencies to present themselves if they felt they should be formally represented on the committee.

  Discussion about committee membership: Brennan O'Banion from Cabinet for Health Services – Dept. Of Public Health requested that his department be represented on the Committee. It was recommended that Commissioner Rice Leach be presented to sit on the Wireless Steering Committee and that Brennan would sit on the Public Safety Working Group. This recommendation was approved by the PSWG and will be presented to the full Wireless Steering Committee.

Nominations for Chair and Vice Chair –

Bob Stephens was nominated for Chair
Major Rob Miller was nominated for Vice-Chair

A. Elections -

Bob Stephens was elected Chair
Major Rob Miller was elected Vice-Chair

B. Appointment of Secretary and Treasurer
Mary Vaughn was appointed Secretary/Treasurer

C. Standing Committees:

- Implementation / Operations Sub-committee

Criss Chancellor of the Lexington Police Dept was appointed Chair

- Technical / Interoperability Sub-Committee

Brian O'Reel of the KY State Police was appointed Chair

D. Bylaws – The FCC provided a sample Bylaws document that will be posted on the GotSource website at: http://www.gotsource.net/dscgi/ds.py/View/Collection-2419 for review and comment.
Please submit comments to Mary Vaughn at mary.vaughn@mail.state.ky.us

We will approve and adopt bylaws at the next full meeting.

E. Establish Future Meetings and Locations – After discussion it was recommended by Denisa Davidson that the PSWG meetings be held in conjunction with the quarterly KENA-APCO meeting. The membership agreed so the next meeting will be in Elizabethtown at the Pritchard Center on April 10th, 2002 at 9:00 a.m. EST.

F. Adjourn

OFFICIAL MINUTES ARE NOT AVAILABLE FOR THIS MEETING, HOWEVER KENTUCKY'S OFFICIAL REQUEST FOR A 700MHZ LICENSE REFERS TO THE MEETING AND IS SHOWN BELOW.

Kentucky's transmittal letter to the FCC dated November 27 is attached below detailing the initial agencies participation.

Commonwealth of Kentucky
GOVERNOR'S OFFICE FOR TECHNOLOGY

Paul E. Patton
Governor

Aldona K. Valicenti
Chief Information Officer

TO: Crit Luallen, Secretary
Governor's Executive Cabinet

FROM: Aldona K. Valicenti, CIO
Governor's Office for Technology

DATE: November 27, 2001

SUBJECT: **700 MHz Application Authority**

The attached letter from Governor Patton to the FCC authorizes the Public Safety Working Group to apply for and administer all licenses for the newly allocated Public Safety spectrum.

The FCC determined that administration of the 700 MHz licenses should occur at the state level either by a State Interoperability Executive Committee or an existing equivalent agency.

State-level organizations are usually in control at large-scale events and disasters or multi-agency incidents. Because of this central role states play in managing emergency communications, they are best suited for administering the Interoperability channels. Further, state-level control will promote safety of life and property through seamless, coordinated communications on the Interoperability channels. Also, states are usually in the best position to coordinate with Federal Government emergency agencies.

The Governor's Office for Technology created such a group in order to develop an enterprise wireless strategic plan and believes that this group is qualified to act in the best interest of all agencies.

The deadline for application for the State license is **December 31, 2001**. Should we fail to meet this deadline the Commonwealth will relinquish the right to use these frequencies. We are poised to begin the application process once we have obtained the Governor's permission to proceed.

Attachment: Patton FCC Letter

November 27, 2001

D'wana Terry, Chief
Public Safety and Private Wireless Division
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC. 20554

Dear Mr. Terry:

This letter is to notify you that I have authorized the Public Safety Working Group, under the direction of the Kentucky Wireless Steering Committee and administered by the Governor's Office for Technology, to serve as the Commonwealth of Kentucky designee to apply for and administer both the State and Interoperability licenses for the newly allocated 700 MHz public safety radio spectrum. The core Public Safety Working Group is comprised of the following stakeholders in this effort:

State Public Safety Agencies:
Dept. of Military Affairs
Transportation Cabinet
Justice Cabinet - Kentucky State Police
Dept. of Forestry
Cabinet for Health Services – Dept. of Public Health
Fire Commission
Unified Criminal Justice Information System

Local Public Safety Agencies:
Police
Sheriff
Fire/EMS
Local EMA
911 Dispatch

Bob Stephens of the Department of Military Affairs, Kentucky Emergency Management Office, is Chair and will act as convener and primary contact for the group. His contact information is as follows:

D'wana Terry, Chief
Public Safety and Private Wireless Division
Wireless Telecommunications Bureau
Federal Communications Commission
November 27, 2001
Page 2

Public Safety Working Group Chair

Bob L. Stephens
Department of Military Affairs
Kentucky Emergency Management
100 Minuteman Parkway
Frankfort, Kentucky 40601
Phone: 502-607-1617
E-mail: bstephens@kydes.dma.state.ky.us

This authorization is in accordance with the Federal Communications Commission's Public Notice DA 01-406, released on February 15, 2001.

With the release of this long-awaited and much needed radio spectrum, Kentucky and many other states will be able to take the next step toward a statewide public safety radio system for all state and local jurisdictions. Statewide multi-jurisdictional systems, such as the one that is being considered in Kentucky, will become a reality sooner when this spectrum is available to the public safety community.

Sincerely,

Paul E. Patton
Governor, Commonwealth of Kentucky

cc: Aldona K. Valicenti, CIO
Stephen N. Dooley, Deputy CIO & Chair
David A. Ballard, Executive Director OIS
Crit Luallen, Executive Cabinet Secretary

6.0 Regional Plan Administration

6.1 Operations of the Regional Planning Committee

This committee will use Robert's Rules of Order to conduct meetings. All decisions will be by clear consensus vote with each Public Safety Agency having one vote. The meetings are open to all persons and a public input time is given for anyone to express a viewpoint or to have input to the planning.

Workgroups may be formed as needed to work on specific issues. For the initial planning three workgroups were formed – writing group, spectrum planning group and operations group. Workgroups are intended to work on details of specific issues and make recommendations to the full committee. Any changes to the Regional plan must be voted and approved by the full Regional Plan Committee. Workgroups are open to any who want to participate. The Chair of the Regional Plan Committee appoints the Chair for each workgroup.

A minimum of one meeting per year will be held of the full committee. This will be announced and advertised by the Committee Chair. Normal time for this meeting will be in January of each year.

6.2 KY Public Safety Working Group (PSWG)

The primary responsibility of the Public Safety Working Group (PSWG) will be to review applications from agencies within the region for conformance to plan requirements. The Technical subcommittee will have access to the Computer Assisted Pre-coordination and Resource Database System (CAPRAD) pre-coordination database system, and will review and recommend approval of applications, as they are received in the system. Applications approved by the RPC will be forwarded to the selected coordinator, then to the FCC. The membership of this committee will consist of the Technical Subcommittee chairperson, the Interoperability Subcommittee chairperson and three other members of the RPC selected by the RPC chair. Membership of the Technical subcommittee will be determined at the annual meeting.

The Technical subcommittee duties are as follows:

- Review applications for compliance to the Region 17 Plan,
- Review appeals, applicant clarifications and applicant presentations,
- Recommend approval or denial to the RPC Chair,
- Maintain coordination with FCC certified frequency coordinators and advisors,
- Update CAPRAD

6.3 Interoperability Subcommittee

Kentucky has created the Kentucky Wireless Interoperability Executive Committee (KWIEC) to oversee interoperability channels. The KWIEC intends to include at least one member of the Region 17 RPC on its committee. The Region 17 Public Safety Working Group will serve as liaison with the KWIEC and assist in the statewide interoperability planning process.

The Interoperability subcommittee duties are as follows:

- Work with the KWIEC in the development of a statewide interoperability plan,
- Load interoperability channel assignments in CAPRAD,
- Review application interoperability plans for conformance to the KWIEC plan.

6.4 Administrative Subcommittee

The PSWG is responsible for monitoring adherence to the Region 17 Plan. The membership of this committee shall consist of the Interoperability Subcommittee chairperson and three other members of the RPC selected by the RPC chairperson. Membership of the committee is determined by the Chair of KWIEC. The PSWG aka Kentucky Region 17 RPC will remain in place permanently to resolve inter-regional issues and recommend regional plan changes to the FCC.

The whole of the PSWG duties are as follows:

- Annually review and update the Region 17 Plan as necessary,
- Monitor various system(s) implementation progress,
- Communicate with applicants to determine if implementation of their systems is in accordance with provisions of their applications,
- Make recommendations to the KWIEC on applicants that fail to implement systems,
- Make recommendations to resolve inter-regional issues,
- Maintain coordination with neighboring RPC's.

6.5 Procedure for Requesting Spectrum Allotments

Upon FCC approval of this Plan, Region 17 will announce to the Region that 700 MHz public safety channels are available in the Region and that channels have been assigned to pool allotments to counties within the Region. All available methods will be used to notify public safety entities of channel availability in the Region. All requests will be considered on a first come, first served basis. Region 17 supports the National Coordination Committee Pre-Assignment Rules and Recommendations, and will use these guidelines as a template to determine if an application submitted to the Regional Planning Committee meets Regional Planning standards. It is recommended that applicants familiarize themselves with these recommendations prior to submitting applications for Region 17 700 MHz public safety system implementation.

Agencies will need to fully document technical information, sites, tower heights, area of coverage, ERP of transmitter sites, along with any other technical information required for RPC subcommittee review and coordinator review. Agencies are expected to construct systems with maximum signal levels in their coverage area and minimum signal levels in co-channel user's coverage areas. Coverage area in the context of this plan will be defined as the geographical boundaries of agency(s) served by the system plus eight miles. The RPC realizes that radio signals don't stop at political borders. Our attempt is to maximize the use of the frequencies by packing as many users as possible per channel.

In order to maintain accurate records in the CAPRAD database, applicants will provide Region 17 with electronic copies of their application along with associated documentation for Regional Planning Committee review. Written applications may be submitted but electronic is preferred. The Regional Planning Committee will enter the FCC 601 form into the CAPRAD database before the application is forwarded to the FCC certified coordinators.

In general and unless otherwise noted, the Region 17 Regional Planning Committee will adhere to the published National Coordination Committee Implementation Guidelines for 700 MHz Public Safety Regional Planning Committees.

6.5.1 Application Requirements

To request channels from Region 17 a full application package must be submitted to the Regional Planning Committee in physical written form for entry by Region 17 personnel in the CAPRAD database http://caprad.nlectc.du.edu/login/home

The application must include:

- An FCC Form 601,
- A short description of the proposed system,
- A justification for the additional spectrum,
- Explanation of the systems future growth for all agencies involved in the system, including how the system will be loaded and what equipment type and quantity is planned to be purchased to load the system

- An interference prediction map using the current version of TIA/EIA TSB 88 guidelines, Maps showing all interference predicted in the proposed system,
- Explanation of the budget commitment for the proposed system including documents indicating agency-funding commitments sufficient to fund the development of the proposed system(s)
- Statement that the applicant agency will conform with interoperability requirements of the KWIEC.
- Any documentation that identifies the radio channels the applicant agency/entity will be abandoning after full implementation of the 700 MHz system, if applicable.

Documentation that will assist in the evaluation of the application against the Point Matrix system identified in Section 10.2

6.5.2 Application Distribution/Coordination

The Chair will distribute the application request to the Public Safety Working Group (PSWG) for review. The PSWG must provide a recommendation to the Region 17 Chair within 10 working days of application receipt. If recommended by the PSWG and absent a protest, the Regional Planning Committee Chair will approve the application and (if applicable), submit it, through the CAPRAD database, to the applicant's preferred FCC-certified frequency coordinator for processing.

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

6.5.3 Allocation Disputes

An agency may protest a proposed system within 30 calendar days of the original distribution. Protests will only be considered if the allocation does not conform to plan criteria or objecting agency or the Chairperson can show harmful interference is likely based on the information submitted by the agency requesting the new allocation. If an agency with pre-licensed/Region approved co-channel or adjacent channel allocations objects to a proposed allocation due to concerns about potential interference, the objecting agency may request field tests be done to confirm or refute interference potential.

The completion of these field tests will be required for Regional application approval. Any costs associated with field tests or any other requirement to obtain Region 17 plan approval is the responsibility of the agency submitting application to Region 17.

The parties involved must resolve the allocation dispute and notify the Region Chair within 14 calendar days. If the parties involved cannot resolve the allocation dispute within that timeframe, then a special full Committee meeting will be scheduled to consider and vote on the protest. If approved, the application will be submitted through the CAPRAD database to the applicant's chosen FCC-certified frequency coordinator for processing.

6.5.4 Lower Power "Campus Eligible" General Use Frequencies

In the implementation of 700 MHz public safety spectrum throughout Region 17, there may be opportunities for increased channel reuse when developing radio systems for "campus" type operations. Examples of those who may capitalize on this opportunity include hospitals, stadiums, malls or places of public gathering, public universities, transit systems and ports. While these channels have been designated in county pool allotments with proper designations, they do not enjoy the benefits of countywide channels in that they are not cleared for usage over a wide area. In many instances, facilities require a smaller or more specific geographical coverage area than assumed in the initial channel packing plan and may be able to be reused more efficiently. These "campus" type systems also, in many cases, require in-building or confined space/tunnel radio coverage or communications along a linear pathway, such as a maintenance or right of way. Public safety channels can be allotted to this type operation in a region and can lead to effective system development, along with increased spectral efficiency, if power levels and Area of Protection (AOP) of the area are taken into account in system planning. These parameters must be established appropriate to the area of coverage. In order to facilitate this effective method of system implementation, channels have been identified in certain areas of Region 17 that may be utilized in a smaller service area. These channels are NOT eligible to be utilized throughout the county they are allotted to and the following criteria must be adhered to when requesting channels from Region 17 for operations of this type:

The 50dBu service contour of the proposed system must not exceed an area more than 2 miles from the proposed service area. When this 2-mile distance extends to an adjacent region, the applicant must obtain concurrence from the adjacent region. Reduced external antenna height, reduced ERP, directional antennae, distributed antenna systems, radiating "leaky coax," are all tools that should be utilized in the development of these type systems. Region 17 will ensure the development of these types of systems will in no way interfere with co-channel or adjacent channel users within Region 17 or Region 17's adjacent regions. The Chairperson, or a majority of the members of the region, has the authority to request and require engineering studies from the applicant that indicate no harmful interference will be introduced to any co-channel or adjacent channel existing user prior to application approval. For 12.5/25 kHz co-channel assignments, the 50dBu service contour of the proposed stations will be allowed to extend beyond the defined service area for a distance no greater than 2 miles. An adjacent/alternate 12.5/25 kHz channel shall be allowed to have 10 its 60 dBμ (50,50) contour touch, but not overlap the 40dBμ service (50,50) contour of an adjacent/alternate system being protected. Evaluations should be made in both directions to ensure compliance. The approval of systems utilizing county allotment channels labeled "Campus", are subject to approval of the Region 17 700 MHz regional planning committee. They are the final authority on parameters associated with "campus" type operations.

If Region 17 receives an application for low power fixed use and the proposed service contour encroaches onto an adjacent Region prior to the channel allotted to the Region being implemented in a specific system, the application must be modified so the service contour does not encroach into the adjacent Region **or** the applicant must supply the Region 17 700 MHz Regional Planning Committee with written concurrence from the adjacent Region permitting the original design.

6.5.5 Procedure for frequency coordination

Before applicants submit an application to one of the FCC recognized frequency coordinators, the application must be reviewed by the Technical Subcommittee. The Subcommittee will review the application to ensure it complies with all elements of the Regional Plan. This will NOT be a review to ensure the application form meets FCC requirements for filing.

The applicants must submit a copy of the FCC application and supporting documents to the Regional Plan Chair. An interference prediction map must be included in the documentation. TIA/EIA TSB88-A (or latest version) guidelines will be used to produce the interference map. The map must show all interference predicted using TSB88-A guidelines. Any agency with co-channel or adjacent channel allotments may request field tests of signal levels to verify interference signal levels. Agencies must be prepared to conduct these field tests if a request is made.

6.5.6 Adjacent Region Spectrum Allocation and Coordination

Region 17 shares borders with 7 adjacent and one non-border Regions:

Region 4 (Arkansas – Non Border)

Region 13 (Illinois)

Region 14 (Indiana)

Region 24 (Missouri)

Region 33 (Ohio)

Region 39 (Tennessee)

Region 42 (Virginia)

Region 44 (West Virginia)

Region 17 will coordinate channel allocations with all its bordering Regions by using the CAPRAD database. This tool will ensure adjacent state notification as well as FCC Certified Frequency Coordinator notification.

The Chair has sent final draft copies of this plan to the Chairs of each adjacent region. Adjacent regions should be able to satisfy voice and narrowband data requests along their border areas with Region 17. If any region has problems satisfying requests in an adjacent area, the Kentucky RPC pledges to work with this region or any of the other surrounding regions to resolve any issues on a case by case basis.

7.0 System Design/Efficiency Requirements

7.1 Interference Protection

The frequency allotment list will be based on an assumption that systems will be engineered on an interference-limited basis, not a noise floor-limited basis. Agencies are expected to design their systems for maximum signal levels within their coverage area and minimum levels in the coverage area of other co-channel users. Coverage area is normally the geographical boundaries of the Agency(s) served plus a three to five 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.

7.2 Spectrum Efficiency Standards

Initial county pool allotments have been made on the basis of 12.5 kHz channels. To maximize spectrum utilization, prudent engineering practices and receivers of the highest quality must be used in all systems. Given a choice of radios to choose from in a given technology family, agencies should use the units with the best specifications. This plan will not protect agencies from interference if their systems are under-constructed (i.e.; areas with the established service area having minimum signal strength below 40 dBu), or the systems utilize low quality receivers. The applicant's implementation of prudent engineering practices will be encouraged by the Regional Planning Committee at all times.

It is the eventual goal of the FCC and the public safety community for radio equipment to meet the requirement of one voice channel per 6.25 KHz of spectrum. When applying for channels within Region 17, 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 four (4) 6.25 kHz channels/two (2) 12.5 kHz channels/one (1) 25 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 12.5 kHz blocks within the Region.

Region 17 encourages small agencies to partner with other agencies in multi-agency or regional systems as they promote spectrum efficiency and both small and large agency capacity needs can be met. Loading criteria can also be achieved in multi-agency systems that will allow greater throughput for all agencies involved than that which could be achieved individually.

7.3 Orphaned Channels

The narrowband pool allotments within Region 17 will have a channel bandwidth of 12.5 kHz. These 12.5 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 12.5 kHz channel bandwidth for their system, there is the potential for residual, “orphaned channels” of 6.25 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 17 will utilize **“county areas”** as guidelines for channel implementation with the area of Region 17. The definition of **“county area”** in this plan is the geographical/political boundaries of a given county, plus a distance of up to 10 miles outside of the county.

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 17 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 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 17 will submit a plan amendment to the FCC to repack the channel to a location where its potential use will maintain maximum spectral efficiency. This FCC plan amendment will require affected Region concurrence.

When in the best interest of public safety communications and efficient spectrum use within the Region, the Region 17 Regional Planning Committee shall have the authority to move orphan channel allotments, and/or co-/adjacent-channel allotments affected by the movement of orphan channels, within its “county areas”, which are defined above. This is to retain spectrum efficiency and/or minimize co-channel or adjacent channel interference between existing allotments within the Region utilizing disparate bandwidths and technologies.

7.4 System Implementation

There are no incumbent high power broadcast TV stations in Kentucky as of the date of this plan.

8.0 Allocation of Narrowband General Use Spectrum

8.1 Introduction

The Region 17 Technical Subcommittee recommends that allotments be made on the basis of one 12.5 KHz channel for every voice channel request and one 25 KHz channel for each narrowband data channel request. This recommendation is approved by the full Committee and is part of this plan. All agencies requesting spectrum during the initial filing window (see Section "6.5") will be allocated channels if plan requirements are met.

8.2 Low Power Secondary Operations

To facilitate portable operation by any licensee, and to provide channels for such operation without impacting the use of primary channels, certain low power secondary use will be permitted. Any public safety entity otherwise licensed to use one or more channels under this Plan may receive authorization to license any additional channel for secondary use, subject to the following criteria:

- All operation of units on such authorized channels will be considered secondary to other licenses on both co-channel and adjacent channels,
- No channels on, or adjacent to, those designated in the Plan for wide area operation and/or mutual aid use will be authorized,
- Channels will be authorized for use in specific areas only, such areas to be within the licensees authorized operational area,
- Maximum power will be limited to 2 watts ERP, and to reduce the potential of interference to any 700MHz radio system.
- Aviation users will not routinely operate their radios in the trunked or repeat mode at altitudes greater than 1000 feet above the ground unless on a specially designed or engineered mode that has received written approval from the system owner (if operating on another agency's system and with the approval of the PSWG/Region 17 Planning Committee). If interference complaints are received from other users or other states, such operations shall cease immediately and shall remain inactive until a resolution is found to the satisfaction of all parties.
- Agencies shall notify the PSWG of any planned routine aviation operations.
- Applications for channels may be submitted to the Committee for consideration at any time and must be accompanied by a showing of need. The Committee may select and authorize licensing of these secondary use channels after consideration of potential interference to co-channel and adjacent channel allotments, allocations and licensees. Authorization may be granted for use of any suitable channel, without prior allotment or allocation to the requesting agency.

- Applicants requesting Mobile Only and / or MO3 (Mobile Vehicular Repeater) operation shall not be required to comply with the requirements of Section 8.3 but shall provide documentation describing in a clear and concise manner the planned use of the subject frequencies.
- Applicants are reminded that “Low Power” frequencies, as described in Section 8.3 are limited in number and a shared commodity. While the PSWG shall take reasonable care in assigning such frequencies, no guarantee of interference free or protected service is assured. Agencies may have to work cooperatively to coordinate such things as CTCSS or Digital squelch protection and other issues.
- In the event the channels authorized for low power secondary operation are needed by others during any window opening for reassignment, no protection will be afforded to the licensed secondary user, and they may be required to change frequencies or surrender licenses to prevent interference to primary use channels.

8.3 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 power use for on-scene incident response purposes using mobiles and portables subject to Commission-approved regional planning committee regional plans. Transmitter power must not exceed 2 watts (ERP).

Channels 9 –12 paired with 969 – 972 and 959 – 960 paired with 1919 – 1920 are licensed nationwide for itinerant operation. Transmitter power must not exceed 2 watts (ERP).

These channels may operate using analog operation. To facilitate analog modulation this plan will allow aggregation of two channels for 12.5 kHz bandwidth. On scene temporary base and mobile relay stations are allowed (to the extent FCC rules allow) with an antenna height limit of 6.1 meter (20 feet) above the ground. However, users are encouraged to operate in simplex mode whenever possible. This plan does not limit use to only analog operations; these channels are intended for use in a wide variety of applications that may require digital modulation types.

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 because 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, firefighters 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 narrowband channels for which the RPCs have responsibility.

- Channel #'s 1-4 and 949-952 are set aside as generic channels for use by public safety agencies operating within Region 17, and the complementary channel #'s 961-964 and 1909-1912 are set aside as generic channels also for use by public safety agencies including GPS differential correction telemetry for channels 961-964 and 1909-1912 likewise operating within Region 17.

- Channel #'s 5-8 are designated as Fire Protection channels for licensing and exclusive use by the Fire Protection discipline, and the complementary channel #'s 965-968 are set aside as Law Enforcement channels also for licensing and exclusive use by the Law Enforcement discipline.

- Channel #'s 955-956 are set aside as Fire Protection channels for licensing and exclusive use by the Fire Protection discipline, and the complementary channel #'s 1915-1916 are set aside as Law Enforcement channels also for licensing and exclusive use by the Law Enforcement discipline.

- Channel #'s 957-958 are set aside as Fire Protection/Law Enforcement channels for licensing and use by the Fire Protection and Law Enforcement disciplines, and the complementary channel #'s 1917-1918 are set aside as Fire Protection/Law Enforcement.

Simplex operations may occur on either the base or mobile channels. Users are cautioned to coordinate on scene use among all agencies involved. Users should license multiple channels and be prepared to operate on alternate channels at any given operational area.

8.4 System Implementation

Per FCC Report and Order WT Docket No. 08-166 and 08-167 and ET Docket No. 10-24 adopted on January 14, 2010 and released on January 15, 2010 the issue of low power auxiliary stations is resolved and requires no mention in this plan effective June 12, 2010.

After allocation of channels (Section 6.5) the agency must release a System RFP and sign a contract with a vendor within one year of the channel allocation. If an agency does not implement in the timeframes specified, that agency's allocation may be removed from the allocation list. An Agency may file a request with the Region Chair for an extension of time to implement. The request should include all details describing why the agency has not implemented and a new implementation schedule. The Committee Chair will advertise this request and set a date for the full committee to vote on the request. If no request for extension is received or the Committee votes not to extend implementation, the Committee Chair will advertise this action and set a filing window to give other agencies a chance to request an allotment of that spectrum.

Should system implementation not begin within two (2) years or if projected planned channel loading is not attained within four (4) years after granting of license, the channels will be returned for re-allocation to others. A one (1) year extension may be supported by the RPC, if it can be shown that circumstances are beyond the control of the applicant. The applicant will be responsible for contacting the FCC to request an extension. Applicants must be acting to the extent of their power to implement the project within their authority.

System implementation will be monitored by the RPC Administrative subcommittee who will be responsible for determining the progress being made on the implementation of a system. Monitoring of systems implementation by the subcommittee will take place on one (1) year intervals. If progress is made and the system is ultimately implemented the system can be determined “complete”. If progress is not made, the licensee will be advised in writing that they are in default of their plan and the Region 17 plan and the consequences of their lack of progress. The Administrative subcommittee will inform the RPC and public safety frequency coordinators of the situation. The Administrative Subcommittee will continue to monitor the progress of any system determined in default and if progress is still not being made the subcommittee will inform the RPC and recommend informing the FCC of the lack of progress. The licensee in default can appeal this action or can allow the license to be withdrawn. If the authorized frequencies are withdrawn they will be returned to the frequency allotment pool for future use.

8.5 Priority for Receiving Spectrum Allocations

Priority for channel allocations will be made on a first come first served basis. Cooperative multi-agency system implementations will be given priority over non-shared single agency systems.

When applying for the new 700 MHz channels, the RPC expects applicants to relinquish any amount of any currently used spectrum and make that spectrum available for use by other agencies in Kentucky upon beneficial use of an implemented 700 MHz radio system. This currently licensed spectrum may be in any public safety band.

Agencies with a primary voice communication system operating under a NPSPAC band 800 MHz license, which are requesting 700 MHz channels for system expansion, are not asked to relinquish this spectrum but will be asked to include this spectrum that is already licensed into the loading requirements for a radio system as defined in this plan. The reason for this requested inclusion is that most, if not all, radio equipment developed for the 700 MHz band is expected to be also capable of operation on any existing 800 MHz NPSPAC licensed systems already in use and will likely to be include in justification of the loading of NPSPAC channels. Without this inclusion, it would theoretically be possible for an agency to double its frequency spectrum allocations by applying for an equivalent number of 700 MHz channels, for each 800 MHz channel that it has already licensed and justified loading criteria for, and reuse the same mobile or portable users for both bands, to both planning committees, in Kentucky.

Although separated in FCC rules and regulations, the Region 17 700 MHz RPC will work with its counterpart Region 17 NPSPAC planning committee to attempt to make the most efficient use of spectrum for Public Safety in the Region.

Agencies are encouraged to relinquish frequencies that will no longer be used as soon as possible in accordance with FCC rules and regulations.

The number of channels an applicant should retain would be an amount required to provide minimum interoperable communications to surrounding jurisdictions. In order to promote the interests of agencies that will benefit from an applicant submitting a request for 700 MHz spectrum, it is requested that the applicant submit a list of all channels and licenses held on existing public safety channels, and those channels that will be expected to be unlicensed when full beneficial use of 700 MHz channels are realized. The RPC will only distribute this information, and not decide if it is sufficient or not. It must be stressed that the Region 17 Regional Planning Committee supports and promotes multi-agency systems that allow for regional/wide area coverage within the Region.

8.6 Channel Loading

The goal of the RPC is to encourage efficient utilization of each frequency and encourages the following loading requirements:

- Each applicant for a trunked system should design their system for a minimum of 70 mobile and portable radios for each 12.5 kHz voice channel that will be placed in service within five (5) years of the initial plan approval date.
- Single conventional channels should be designed for a minimum load of 70 radios per 12.5 kHz channel. Mobile, portable, data, and control stations will all be considered within this count.

Loading will eventually be required to change to 50 units per 6.25 kHz channel, when further narrowband technologies are available and when the FCC requires 6.25 kHz efficiencies, currently January 1, 2017.

8.7 Dispute Resolution – Intra-Regional

In the event an agency disputes the implementation of this Plan or the Federal Communications Commission approval of this Plan or parts of this Plan, the agency must notify the Chair of the dispute in writing. This section does not apply to protests over new spectrum allocations (see Section "6.5"). The Chair will attempt to resolve the dispute on an informal basis. If a party to the dispute employs the Chair, then the Vice Chair will attempt resolution. In such cases, the Chair shall be deemed to have a conflict of interest and will be precluded from voting on such matters.

If after 30 days the dispute is not resolved, the Chair (or Vice Chair) will appoint a Dispute Resolution Committee consisting of two members from the State of Kentucky governmental agencies and at least five members from different counties in Region 17. That committee will select a Chair to head the committee and a secretary to document the proceedings.

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

9.0 Interoperability Channels

9.1 Introduction

The ability for agencies to effectively respond to mutual aid requests directly depends on their ability to communicate with each other. Kentucky is subject to many natural disasters and mutual aid is common among agencies. This Plan seeks to facilitate the communications necessary for effective mutual aid.

The Commonwealth of Kentucky will administer the 700 MHz interoperability channels via the Kentucky Wireless Interoperability Executive Committee (KWIEC) under National Coordination Committee's (NCC) guidelines. The Region 17 700 MHz Regional Planning Committee AKA Kentucky Public Safety Working Group (PSWG) will work with the KWIEC to administer the plan. If at any time the PSWG/Region 17 Planning Committee is unable to function in the role of administering the interoperability channels in the 700 MHz band, then the KWIEC will assume this role and notify the FCC in writing of the change in administrative duties.

9.2 Tactical Channels

All mobile and portable units operating under this Plan and utilizing 700 MHz channels must be programmed with the minimum number of channels called for either in NCC guidelines or as the KWIEC specifies. The channel display will be in accordance with the APCO-NPSTC-ANS1-104-1 as approved by ANSI June 9, 2010 or later. The most current version at the time of programming shall apply. Appendix D lists the 700 MHz Interoperability frequencies and the approved common nomenclature.

Region 17 will not set aside additional channels for interoperability use within the Region. It is anticipated the sixty-four FCC designated interoperability channels (6.25 KHz) will be sufficient to provide interoperability (voice and data) within Region 17.

9.3 Deployable Systems

This Plan 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 interoperability channels. This will minimize the expense of installing extensive fixed infrastructure and recognizes the difficulty of providing complete coverage of the region due to environmental constraints.

Agencies should have conventional deployable systems capable of being tuned to any of the 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. The KWIEC will develop the operational details for deploying these systems.

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

9.4 Monitoring of Calling Channels

700 MHz licensees will be responsible for monitoring the interoperability calling channels. The KWIEC will develop operational guidelines for this function.

10. Application Requirements and Evaluation

10.1 Introduction

The applicant evaluation criteria established in the NCC process, and as further defined in this plan, will be followed for approval. All requests will be considered on a first come, first served basis. In cases, where specific frequency allotments are required by numerous applicants at the same time, the applicant evaluation matrix point system will be utilized to determine the successful applicant. In all cases, area of coverage, technical requirements, and channel loading criteria will be applied. Exceptions may apply upon unique circumstances, after review and approval by the RPC. Deviations from FCC rules are not to be approved unless a fully justified waiver request has been presented to the RPC. The Region 17 Technical Subcommittee will evaluate and process applications within thirty (30) days after notified of receipt by CAPRAD.

The matrix has been prepared to enable consistent evaluation of plans and applications. Variations within the parameters of this plan and submitted applications and/or plans may require extensive evaluation. Therefore, it shall be responsibility of the RPC to evaluate each situation on its own merit.

Each applicant for a trunked system shall certify that a minimum of 70 field radios for each 12.5 kHz channel will be placed in service within five (5) years of the initial plan approval date. If that is not the case, then less than fully loaded channels shall be returned to the allotment pool and the licensee shall modify their license accordingly. Conventional channels shall be loaded to 70 mobile units per 12.5 kHz channel. Where an applicant does not load a channel to 70 radio/subscriber units, the frequency will be available for assignment to other licensees. Mobile, portable and control stations will be considered as mobile units.

10.2 Evaluation Matrix Point System

Region 17 will use a point system to determine approval priority of competing applications within the region. The maximum total points that can be achieved are 800 points. The applications receiving the highest point total will receive approval for the channels. Seven categories will be evaluated.

Where applicable, such as in multiple disciplines shared systems, the points for all agencies utilizing the system are included in the total.

1. Service and Use (Maximum score 300 points)

Service	*Points*
Local	*10*
County	*10*
State	*10*
Federal	*10*
Use	*Points*
Criminal Justice/Law Enforcement/Crisis Mgmt	*50*
Fire/EMS	*50*
Special Emergency	*40*
Emergency Management	*40*
Forestry Conservation	*30*
Highway Maintenance	*30*
General Government	*20*

Maximum Total 300

Environmental protection will fall in the “Special Emergency” category and shall be considered for tasks that directly reduce contamination to the air, water or ground by chemicals or waste materials.

Interoperability Communications (Maximum score 100 points)

The application is scored on the degree of interoperability that is demonstrated, with a range of points from 0 to 100. This category will not rate the application on the inclusion of interoperability channels, but on its proposed actual ability to communicate with different levels of government and services during a time of emergency.

Each applicant is encouraged to have direct mobile-to-mobile communications among these radio type functions; local, state and federal in the criminal justice, fire/EMS, special emergency, emergency management, forestry, highway maintenance and general government. All applicants will start with 100 points and points will be deducted based upon their lack of intersystem communications. No points will be deducted if a plan or system has not yet been developed within their areas of service.

- Ten (10) points will be deducted for each radio service type function in which the applicant lacks intersystem communication, if direct mobile-to-mobile does not exist.
- Five (5) points for each radio service that the applicant lacks direct mobile-to-mobile communications.

2. ***Loading (Maximum score 150 points)***

Those applicants who have demonstrated that they are part of or developing cooperative, multi-agency, systems will be scored on a range from 0 to 150 points depending upon the extent of the cooperative system.

Multi-agency trunked, fully loaded, system	*101 – 150 points*
Trunked system, fully loaded, single agency	*76 – 100 points*
Mobile data channel fully loaded/channel	*76 – 100 points*
Conventional system fully loaded/channel	*0 – 75 points*

Expansion of existing systems will be evaluated as to the aforementioned category they are in. Any system less than fully loaded will have its score multiplied by the proportion:

Fully loaded/channel is a 12.5 kHz channel with 70 radio units. Control channels shall be considered as data channels. Plans submitted to the RPC shall stipulate the number of voice communication channels and the number of data channel(s). These points will only be assigned to fully loaded systems that are planned and identified with the application package submittal.

3. ***Spectrum Efficiency (Maximum score 50 points)***

The applicant will be scored on the degree of spectrum efficient technology that the system demonstrates. A trunked system will be considered a spectrum efficient technology as well as any technological systems feature that is designed to enhance the efficiency of the system and improve the efficient use of spectrum.

Spectrum efficiency points

Trunked or equally high efficient technology	*50 points*
Conventional system using data	*50 points*
Technologies that increases system throughput	*50 points*

4. System Implementation Factors (Maximum score 100 points)

This category scores the applicant on two factors, budgetary commitment and plan completeness. The degree of budgetary commitment is scored on a range from 0 to 50 points based on the RPC's evaluation of commitment demonstrated through documentation by the applicant and its funding source entity. A high degree of funding commitment will receive a higher score. Applicants will also be scored on the degree of plan completeness on a range from 0 to 50 points. Applicants must submit a timetable for the implementation of the system. Applicants should be aware of the requirements outlined in "Slow Growth Plan" portion of this plan and the FCC rules.

Multi phase project with funds committed to all phases 50 points

Multi phase project plan completed for all phases 50 points

Applicants with less than complete funding commitment and/or incomplete plans will have their point score reduced accordingly. Resolutions, legislation, or other such documentation from governing entities shall be submitted with applications to support financial commitment.

5. System Density (Maximum score 100 points)

Each applicant's System will be scored on the level of geographic efficiency for requisite communications coverage, for the applicant's jurisdictional area served or regional area served under agreement with other Agencies and/or defined communication requirements. Scoring will be based upon the defined radio coverage area of the application, and the Entity's jurisdictional area or required communication support areas. Region 3 recognizes that each Entity may not be required (by System or network users) to provide radio System communication support for all jurisdictional boundaries or areas that are supported by that Entity. This evaluation is to only weigh the efficiency of the System being applied for, against the required areas for communication support based on System user requirements or other Entity Systems licensed or applied for. Scores are based on the ratio multiplied by 100 with the maximum not to exceed 100 points.

Percentage of System operational area for applicant's jurisdictional area of responsibility for communications support x 100 = _____

10.3 Application Processing

All applications will be processed in the most expeditious manner possible by the RPC. After Region 17 approval, the applications will be sent to the coordinator requested by the applicant. All documentation required by the designated coordinator selected in this process will be available through the CAPRAD system.

11. Future Planning

11.1 Database Maintenance

Region 17 will continue to use and update the CAPRAD database as 700 MHz spectrum within the Region as assigned and licensed by eligible entities.

11.2 Inter-Regional Dispute Resolution Process

Signed Inter-Regional Dispute Resolution Agreements from all seven adjacent Regions are included in Appendix I.

11.3 Amendment Process

Amendments to the Region 17 Plan will be made at Region 17 RPC meetings. All amendments will be voted on and passed or rejected by a simple majority vote. The Chairman or his designee will make the appropriate changes to the Plan and notify the adjacent Regions for their concurrence. Once the concurrences are received from the adjacent Regions, the Plan will be filed, by the Chairperson, with the FCC for approval. Electronic filing will be the preferred method.

11.4 Meeting Announcements

Meeting announcements will be made per the Region 17 Bylaws. Region 17 will utilize its membership list, Public Notices issued by the FCC, fax notification, email to individual, associations, agencies and vendors, verbal announcements at meetings and/or appropriate publications.

12. Certification

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

Robert L. Stephens

Chair, Region 17

MAY 25, 2012

13.0 Appendix A – The Bylaws of Region 17 Kentucky

ARTICLE 1

NAME & PURPOSE

Name and purpose: The name of this Region shall be Kentucky Region 17. Its primary purpose is to foster cooperation, planning, development of regional plans and the implementation of these plans in the 700 MHz Public Safety Band. The Region 17 Planning Committee shall be imbedded in and within the Kentucky Public Safety Working Group (PSWG) of the Kentucky Wireless Interoperability Executive Committee (KWIEC). These Bylaws are intended to guide the actions of Region 17 and the PSWG as they pertain to issues associated with 700MHz spectrum. To the extent possible the PSWG will adhere to these Bylaws while addressing other non 700MHz Public Safety Communications issues.

ARTICLE II

MEMBERS

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

2.1 Number, Election and Qualification. The Regional Committee shall have two classes of members, "voting members" and "non-voting members." New members are appointed by the Chairman of the KWIEC.

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 and 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, EMA, highway, NG 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 of a majority of members after reasonable notice and opportunity to be heard. Failure to attend 50% of meetings held in a calendar year shall be a specific cause for removal from the membership.

2.5 Resignation: A member may resign by delivering written resignation to the Chairman, Co- or secretary of the Regional Committee or to a meeting of the members.

2.6 Annual Meetings: The annual meeting of the members shall be held at Frankfort, KY in November prior to the 24th each year 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 an annual meeting is not held as herein provided, a special meeting of the members may be held in place thereof with the same force and effect as the annual meeting, and in such case all references in these bylaws, except in this Section 2.6, to the annual meeting of the members shall be deemed to refer to such special meeting. Any such special meeting shall be called and notice shall be given as provided in Section 2.7 and 2.8. All meetings shall be considered open meetings as defined by Kentucky Revised Statutes 61.800-61.850.

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 co-chairman, or in case of death, absence, incapacity, by any other officer or, upon written application of two or more members. Special meetings shall also be conducted as directed by KRS 61.800-850.

2.8 Call and Notice:

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

B. Reasonable and sufficient notice. Except as otherwise expressly provided, it shall be reasonable and sufficient notice to a member to send notice by email at least 24 hours prior before the meeting as required by Kentucky Revised Statutes (KRS) 61.800-850, 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 24 hours before the meeting.

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

2.10 Action by Vote. Each voting member, representing a particular agency (one vote per agency) shall have one vote; non-voting members have no right to vote. When a quorum is present at any meeting, a majority of the votes properly cast by voting members present shall decide any question, excluding 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 or other telephonic/electronic means. These electronic messages may be made available by the chair and/ or co-chair as directed by Kentucky Open Records Laws, KRS 61.870-61.884 and the written consents are filed with the records of the meetings of the members. Such consents shall be treated for all purposes as a vote at a meeting.

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

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

2.14 Special Interest Voting. A voting member cann**ot** have a commercial interest in any of his/her region and/or adjacent regions application(s) on which he/she is reviewing, approving and/or voting.

2.15 Kentucky Region 17 Planning Committee meetings shall mirror the meeting schedule of the Kentucky Wireless Interoperability Executive Committee (KWIEC) and shall meet in various locations statewide. That schedule rotates from Frankfort to Lexington (East), Owensboro (West) and Somerset (South) over a 4 year schedule.

2.16 Kentucky Region 17 Planning Committee meetings may be conducted by video and/or teleconference to conserve resources and reduce travel costs to members. Conference bridge information will be included in any meeting announcement. Video and/or teleconference participation meets the plan quorum criteria and is encouraged.

ARTICLE III

OFFICERS AND AGENTS

3.1 Number and qualification. The officers of the Regional Committee shall be a chairman, vice-chairman or co-chairman, and secretary and such other officers, if any, as the KY Wireless Interoperability Executive Committee Chair may determine. All officers must be voting members of the Regional Committee.

Election. The officers of Region 17 shall be appointed by the chair of the Kentucky Wireless Interoperability Executive Committee. Voting members shall make recommendations to the KWIEC on membership in Region 17.

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

3.3 Chairman and Co-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 Chairman may define standing or ad hoc committees to conduct Region business as needed. An ad hoc committee may be formed to review and approve adjacent Regions Plans.

The Co-Chairman, if any, shall have such duties and powers as the Chair of the KWIEC shall determine. The vice-chairman shall have and may exercise all the powers and duties of the chairman during the absence of the chairman or in the event of his or her inability to act.

3.4 Treasurer. Region 17 AKA the KY Public Safety Working Group shall operate within the financial framework of the KWIEC and or Commonwealth's Office of Technology. It is expected that Region 17 AKA PSWG will not administer any funds outside of COT and or any individual agency.

3.5 Secretary. The secretary shall record and maintain records of all proceedings of the members in a file or series of files kept for that purpose, which file or files shall be kept within the Region and shall be open at all reasonable times to the inspection of any member. Such file or files shall also contain records of all meetings and the original, or attested copies, of bylaws and names of all members and the address (including e-mail address, if available) of each. If the secretary is absent from any meeting of members, a temporary secretary chosen at the meeting shall exercise the duties of the secretary at the meeting. It is expected that the secretary shall be provided by the Commonwealth's Office of Technology as part of the KWIEC.

3.6 Suspension or Removal. An officer may be suspended at the pleasure of the Chairman of the KWIEC.

3.7 Resignation. An officer may resign by delivering his or her written resignation to the chairman, vice-chairman, or secretary of the Regional Committee. Such resignation shall be effective upon receipt (unless specified to be effective at some other time), and acceptance thereof shall not be necessary to make it effective unless it so states.

3.8 Vacancies. If the office of any officer becomes vacant, the remaining members shall petition the KWIEC for the appointment of another member/officer. Each such successor shall hold office for the remainder terms, and in the case of the chairman, co-chairman, and secretary until his or her successor is appointed, 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 requires action by the voting members.

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 PSWG may only be disbanded by the KY Legislature and 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.

13.1 Appendix B Membership List

Robert L. Stephens	Co-Chair	KY EMA	502-607-1617	robert.l.stephens64.nfg@mail.mil
Derek Nesselrode	Co-Chair	KY State Police	502-782-2064	derek.nesselrode@ky.gov
Charles R. Miller	KWIEC Facilitator		502-564-5397	charles.miller@ky.gov
Jeff Mitchell	Member	KEWS	502-564-5397	jeff.mitchell@ky.gov
CW4 David Barker	Member	KYNG	502-607-1727	david.barker@us.army.mil
Brandon Marshall	Member	KY State Police	502-782-2064	brandon.marshall@ky.gov
MAJ Paul See	Member	Lexington Fire Dept	859-231-5674	seep@lexingtonky.gov
Ron Pannell	Member	Louisville MetroSafe	502-572-3489	Ron.Pannell@louisvilleky.gov
Drew Chandler	Member	KY Public Health	502-564-7243	Drew.Chandler@ky.gov
Danny Ball	Member	CTR Rural Dev	606- 677-6000	dball@centertech.com
Walter Atherton	Member	Daviess Co.EMA	270 685-8448	Atherton@daviessky.org
Jerry Shouse	Member	Anderson Co. 911	502 839-4041	k4tg@k4tg.com
Mark Rudder	Member	Bush Volunteer Fire Dept	606-309-8055	mark.rudder@kctcs.edu
Chris Galbreath	Member	Boyle County 911	859-238-7439	afa4so@kywimax.com
Patrick Compton	Member—Franklin County EM		502-330-9531	kf4fmz@bellsouth.net
Doug Tackett	Member	Pike County EMA/KEMA	606-432-6210	DougK.Tackett@ky.gov
Misty Moore	Secretary		502-782-2063	misty.moore@ky.gov

13.2 Appendix C Adjacent Regions Concurrence Letters

Region 4 Arkansas Concurrence Letter

Region 4 (Arkansas) 700 Mhz Regional Planning Committee

Chair Carl Jacobs Vice Chair J.M. Rowe

Bob Stephens
Communications Supervisor
KY Department of Military Affairs
Boone NG Center 126 Minuteman Parkway October 22, 2009

Dear Bob,

Region 4 has received and reviewed the Region 17 700 MHz Plan. On behalf of Region 4, by this letter, Region 4 concurs with the Region 17 Plan.

Region 4 requests that Region 17 allow us to review any FCC applications that would affect our Region, prior to that application being submitted to the FCC. Region 4 will respond in a timely fashion, as set forth in our Dispute Resolution.

Sincerely,

J.M. Rowe
Acting Chair
Region 4 (Arkansas) 700MHz Regional Planning Committee

Region 24 Missouri Concurrence Letter

Region 24 700 MHz
Regional Planning Committee
Stephen T. Devine, Chairperson
Missouri Department of Public Safety
314-223-2191 stephendevine@mchsi.com

June 19, 2012

Mr. Robert L. Stephens-Chairperson
Region 17 700 MHz Regional Planning Committee
Kentucky Emergency Management
100 Minuteman Parkway
Frankfort, KY 40601

Dear Chairman Stephens,

On May 24, 2012, the Region 17 (Kentucky) 700 MHz Regional Planning Committee (RPC) submitted its plan for the use of 700-MHz General Use channels in the 769-775 and 799-805 MHz bands for adjacent region approval to the Region 24 700 MHz Regional Planning Committee.

The Region 24 (Missouri) 700 MHz Regional Planning Committee has completed a thorough review of the proposed Region 17 700 MHz plan and found it to be consistent with the Missouri 700 MHz plan in its CAPRAD based channel allotments and its rules and guidelines that promote successful 700 MHz implementation within and between both Region's 17 and 24. Subsequently, Region 24 700 MHz regional planning committee hereby provides this correspondence to serve as the official written adjacent region concurrence of the proposed Region 17 700 MHz Plan.

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

Regards,

Stephen T. Devine
RPC Region 24 700 MHz Regional Planning Chairperson
824 Rock Hill Court
Jefferson City, Missouri 65109
314-223-2191 mobile
stephendevine@mchsi.com

Region 13 Illinois Concurrence Letter

700 & 800 MHz Region 13
Regional Conformance Review
and Implementation Committee

June 25, 2012

Mr. Robert L. Stephens, Chairperson
Region 17 700MHz Regional Planning Committee
Kentucky Emergency Management
100 Minuteman Parkway
Frankfort, Kentucky 40601

Dear Mr. Stephens:

On May 24, 2012, the Region 17 (Kentucky) 700 MHz Regional Planning Committee (RPC) submitted its plan for the use of 700 MHz General Use channels and the 769-775 and 799-805 MHz bands for adjacent region approval to the Region 13 (Illinois) MHz RPC.

The Region 13 700 MHz RPC has completed the review of the proposed Region 17 700 MHz plan and are providing this letter as a formal approval from Region 13. Our only concern is with the Encryption Algorithm ID and Key ID section under Appendix D on page 46. The Kentucky plan prohibits the use of encryption on interoperability calling channels but does not prohibit encryption on other designated interoperability channels. Clearly this situation would allow for potential interference between encrypted and non-encrypted assisting agencies during an emergency event.

Your team should be congratulated on an excellent job. Your RCP was very well constructed. Please feel free to contact me with any questions.

Respectfully,

Gary J. Cochran
Chairman, Region 13 RCRC

Illinois State Police, CSB
c/o Gary Cochran, Chairman
801 South Seventh Street, Suite 201-N
Springfield, IL 62794-9461

Region 14 Indiana Concurrence Letter

INDIANA 700 MHZ REGION PLANNING COMMITTEE

FCC REGION 14

Alex R. Whitaker, Chairman
Douglas B. Cochrane, Vice Chairman
c/o The State of Indiana – The Integrated Public Safety Commission
Indiana Government Center North – Room N340
100 North Senate Avenue, Indianapolis, Indiana 46204
TX: 317-234-6513 ; FAX: 317-234-6514
E-mail: alwhitaker@ipsc.in.gov
E-mail: dcochrane@ipsc.in.gov

August 31, 2012

Bob Stephens
Communications Supervisor
Kentucky Division of Emergency Management
Boone National Guard Center
Frankfort, KY 40801-6168

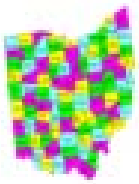
Dear Mr. Stephens,

Region 14, at its July 27, 2012 meeting, has reviewed the proposed 700 MHz Region Plan for FCC Region 17. After review from the Committee, Vice-Chairman Cochrane, and myself, Region 14 hereby gives its approval to and concurrence with Region 17's 700 MHz Region Plan.

Thank you,

Alex R. Whitaker,
Chairman
Region 14 700 MHz Regional Planning Committee

Region 33 Ohio Concurrence Letter



Region 33 (Ohio) 700 MHz. Planning Committee
Paul M. Mayer, Chairman
2022 Charmingfare Street, Columbus, Ohio 43228
614-312-1199 (voice) e-mail region33.rpc@gmail.com

June 11, 2012

Robert L. Stephens
Co-Chairman, Region 17 - 700 MHz Planning Committee
Kentucky Department of Military Affairs
Boone NG Center
126 Minuteman Parkway
Frankfort, KY 40601

Dear Mr. Stephens:

Region 33 (Ohio) is in receipt of your proposed 700 MHz Regional Plan, dated May 25, 2012 and submitted to this Committee on May 29, 2012.

Region 33 (Ohio) has reviewed your plan and has noted you will use the CAPRAD database sort for primary frequency assignments and will coordinate applications within 70 miles (113 km) with their adjacent states. We are satisfied with the level of concern and protection to Region 33 channel assignments and hereby concurs with the Region 17 Plan.

Sincerely,

Paul M. Mayer
Chairman, Region 33

Region 44 West Virginia Concurrence Letter

Region 44 – West Virginia

700 MHz Regional Planning Committee

1300 Harrison Avenue

Elkins, West Virginia 26241

304.637.0200 – V 304.637.0203. – F

May 24, 2012

Robert L. Stephens

Kentucky Emergency Management

J6 Wireless Communications

100 Minuteman Parkway

Frankfort, KY 40601

Phone: 502-607-1617

Email: bob.stephens2@us.army.mil

Dear Col. Stephens:

Region 44 (West Virginia) is in receipt of your proposed 700 MHz Regional Plan, submitted to this Committee.

This letter serves as the official, written concurrence of Region 44 to Region 17's 700 MHz Regional Plan.

Sincerely,

David W. Saffel

David W. Saffel

Chairman Region 44

700 MHz Regional Planning Committee

Region 42 Virginia Concurrence Letter

Region 42 (700 MHz) RPC

National Public Safety Planning Advisory Committee

June 27, 2012

COL (R) Bob Stephens
Region 17 700 RPC Chair
Communications Supervisor
KY Department of Military Affairs
Division of Emergency Management

Subject: Region 42 Concurrence with the Region 17 700 MHz Plan

Dear Mr. Stephens,

This letter of concurrence is in support of the 700 MHz Region 17 Plan. I am writing in my current role as the chairman for the 700 MHz Regional Planning Committee 42.

Region 42 (Virginia) concurs with the Region 17 (Kentucky) 700 MHz plan. Region 42 has reviewed the 700 MHz Plan submitted by Region 17, and is satisfied that the plan addresses the necessary steps to coordinate with adjacent regions.

Region 42 looks forward to working with Region 17 in coordination of 700 MHz and other spectrum issues in the future.

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

Sincerely,

Robert A. DeLauney
700 MHz Region 42 Chair
Radio Systems Engineer
City of Virginia Beach
2508 Princess Anne Road
Virginia Beach, Virginia 23456

Page 1 of 1

Region 39 Tennessee Concurrence Letter

NPSPAC

800 MHz Region 39, Tennessee

NPSPAC Region 39 700 MHz Regional Review Committee

John W. Johnson, Chairman
4130 Azalea Court
Murfreesboro, TN 37128

Jim Fanguy, Vice Chair
9560 Vaught Rd.
Readyville, TN 37149

August 1, 2012

Bob Stephens
Kentucky Emergency Management
J6 Wireless Communications
100 Minuteman Parkway
Frankfort, KY 40601

Bob:

On behalf of NPSPAC Region 39, this is to formally approve the Region 17 Plan, for the Commonwelth of Kentucky. Region 39 has received and reviewed the Region 17, 700 MHz Plan. On behalf of Region 39, by this letter, Region 39 concurs with the Region 17 Plan.

Region 39 requests that Region 17 allow us to review any FCC applications that affects our Region, prior to the application being submitted to the FCC and will respond in a timely manner, as set forth in our Dispute Resolution.

If I can be of further assistance, please do not hesitate to contact me.

Respectfully,

John Johnson
Chairman Region 39

Cc: Jim Fanguy, Vice Chair Region 39
Jesse D. Griggs, Secretary, Region 39

13.3 Appendix D Interoperability Frequencies/Common Nomenclature

Table of 700 MHz Interoperability Channels

16 Channel Sets	Description	Label
Channel 23 & 24	*General Public Safety Services (secondary trunked)*	*7TAC51*
Channel 103 & 104	*General Public Safety Services (secondary trunked)*	*7TAC52*
Channel 183 & 184	*General Public Safety Services (secondary trunked)*	*7TAC53*
Channel 263 & 264	*General Public Safety Services (secondary trunked)*	*7TAC54*
Channel 39 & 40	Calling Channel	7CALL50
Channel 119 & 120	General Public Safety Service	7TAC55
Channel 199 & 200	General Public Safety Service	7TAC56
Channel 279 & 280	Mobile Data	7DATA69
Channel 63 & 64	Emergency Medical Service	7MED65
Channel 143 & 144	Fire Service	7FIRE63
Channel 223 & 224	Law Enforcement Service	7LAW61
Channel 303 & 304	Mobile Repeater	7MOB59
Channel 79 & 80	Emergency Medical Service	7MED66
Channel 159 & 160	Fire Service	7FIRE64
Channel 239 & 240	Law Enforcement Service	7LAW62
Channel 319 & 320	Other Public Service	7GTAC57
Channel 657 & 658	*General Public Safety Services (secondary trunked)*	*7TAC71*

Channel 737 & 738	*General Public Safety Services (secondary trunked)*	*7TAC72*
Channel 817 & 818	*General Public Safety Services (secondary trunked)*	*7TAC73*
Channel 897 & 898	*General Public Safety Services (secondary trunked)*	*7TAC74*
Channel 681 & 682	Calling Channel	7CALL70
Channel 761 & 762	General Public Safety Service	7TAC75
Channel 841 & 842	General Public Safety Service	7TAC76
Channel 921 & 922	Mobile Data	7DATA89
Channel 641 & 642	Emergency Medical Service	7MED86
Channel 721 & 722	Fire Service	7FIRE83
Channel 801 & 802	Law Enforcement Service	7LAW81
Channel 881 & 882	Mobile Repeater	7MOB79
Channel 697 & 698	Emergency Medical Service	7MED87
Channel 777 & 778	Fire Service	7FIRE84
Channel 857 & 858	Law Enforcement Service	7LAW82
Channel 937 & 938	Other Public Services	7GTAC77

13.4 Project 25 Common Air Interface

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

Network Access Code

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

The use of NAC code $293 is required for the 700 MHz Interoperability Channel NAC code.

Talk group ID

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

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

Manufacturer's ID

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

Message ID

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

13.5 Appendix E Sample Interoperability Memorandum of Understanding

TO: (signer of application and title)

(agency name)

FROM: (name), Chairman

DATE: (mm/dd/yyyy)

SUBJECT: Memorandum of Understanding for Operating the 700 MHz Interoperability Channels

This memorandum of understanding (hereafter referred to as MOU) shall be attached to the application when submitting it. By virtue of signing and submitting the application and this MOU, (agency name) (hereafter referred to as APPLICANT) affirms its willingness to comply with the proper operation of the Interoperability (interoperability) channels as dictated by the Kentucky Public Safety Working Group (Region 17 Planning Committee (here after referred to as RPC) as approved by the Federal Communications Commission (hereafter referred to as FCC) and by the conditions of this MOU.

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

- To operate by all applicable State, County, and City laws/ordinances.
- To utilize “plain language” for all transmissions.
- To monitor the Calling Channel(s) and coordinate the use of the Tactical Channels.
- To identify inappropriate use and mitigate the same from occurring in the future.
- To limit secondary Trunked operation to the interoperability channels specifically approved on the application and limited to channels listed below.
- To relinquish secondary Trunked operation of approved interoperability channels to requests for primary conventional access with same or higher priority.
- To mitigate contention for channels by exercising the Priority Levels identified in this MOU.

The preceding conditions are the primary, though not complete, requirements for operating in the interoperability channels. Refer to the Region Plan for the complete requirements list.

Priority Levels:

1. Disaster or 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 (default priority).

To resolve contention within the same priority, the channel should go to the organization with the wider span of control/authority. This shall be determined by the State Interoperability Executive Committee or RPC for the operation or by the levels of authority/government identified in the contention.

For clarification purposes and an aid to operate as authorized, any fixed base or mobile relay stations identified on the license for temporary locations (FCC station class FBT or FB2T, respectively) shall remain within the licensed area of operation. Similarly, vehicular/mobile repeater stations (FCC station class MO3) shall remain within the licensed area of operation. Federal agencies are permitted access to interoperability channels only as authorized by 47 CFR 2.102 (c) & 2.103 and Part 7.12 of the NTIA Manual.

Any violation of this MOU, the Region Plan, or FCC Rule shall be addressed immediately. The first level of resolution shall be between the parties involved, next the State Interoperability Executive Committee or RPC, and finally the FCC.

Secondary Trunked Channels[1]

7GTAC05 - Channel 23 & 24	7GTAC35 - Channel 657 & 658
7GTAC07 - Channel 103 & 104	7GTAC37 - Channel 737 & 738
7GTAC09 - Channel 183 & 184	7GTAC39 - Channel 817 & 818
7GTAC11 - Channel 263 & 264	7GTAC41 - Channel 897 & 898

_____ (typed or printed name of authorized signer)

_____ (authorized signer signature)

_____ (date)

_____ (agency name)

_____ (agency address)

_____ (agency address)

_____ (agency address)

_____ (signer's phone)

_____ (signer's email address)

13.6 Appendix F Summary of Minutes/Copies of notifications

Document #1 Public Safety Working Group 700 MHz Planning Meeting, February 15th, 2002, Holiday Inn – Capital Plaza Hotel Frankfort, KY

[1] As adopted by the FCC in the 4th MO&O, WT Docket 96-86 dated March 5, 2002.

The Governor has authorized the **Public Safety Working Group**, under the direction of the **Kentucky Wireless Steering Committee** and administered by **the Governor's Office for Technology**, to serve as the Commonwealth of Kentucky designee to apply for and administer the State and the Interoperability licenses for the newly allocated 700 MHz public safety radio spectrum. Through this organization, we will incorporate **all Public Safety communications initiatives** into an overall Plan while honoring the mission of each individual agency.

Our Vision:

A seamless, coordinated, and integrated public safety communications network for the safe, effective, and efficient protection of life and property.

Our Mission:

> To plan for and foster interoperability while meeting the requirements of local, state, and federal public safety agencies by:
>
> Improving public safety wireless communications by addressing each of the five issue areas of interoperability
>
> Coordination and partnerships, Funding, Spectrum, Standards and Technology, and Security.
>
> Listening to, learning from, and collaborating with local and state public safety officials to improve communications interoperability.

The Problem:

The lack of effective, reliable and secure statewide wireless voice and data communications is impacting the ability of public safety organizations to carry out their mission to protect the life and property of the citizenry of the Commonwealth. If something is not done to address this problem, agencies will not be able to move forward with new programs and projects, additional personnel will need to be recruited and trained to provide services Commonwealth citizens expect and require, budgets will be impacted, and in the worst case lives and property will be at unnecessary risk.

Our Progress:

In October of 2001, the joint-agency Wireless Steering Committee, under the administration of the Governor's Office for Technology, completed the first Commonwealth Wireless Strategic Plan document. This document:

1. Captures the existing environment and forecast of both commercial cellular and private radio systems within the Commonwealth.
2. Provides recommendations based upon best practices and lessons learned from other states, federal initiatives and our own circumstances.
3. Clearly states the need for the Commonwealth to develop an Enterprise level approach to the acquisition, development, and deployment of wireless technologies necessary to support the requirements of all state and local government.
4. Specifically addresses the need to bridge the 'Digital Divide' and extend government services to under-served areas of the Commonwealth.

Through creation of the Kentucky Information Highway (KIH) and reliance on a common infrastructure, the Commonwealth has made great strides toward creating the conceptual and physical basis for a statewide wireless network.

Through the Kentucky Unified Criminal Justice System (UCJIS) Program, the Commonwealth is working to establish a common goal between state agencies for communications, information exchange, and cooperation with local agencies. Wireless Communications is a key component to the success of the UCJIS Program.

The Challenge:

This committee has a daunting task in front of you. Your first task is the development of the 700 MHz Plan. However, this is the first of many. In order to develop a truly comprehensive Public Safety Wireless Communications Plan, you must incorporate the elements of many local state and federal initiatives. This includes local, regional and statewide grant opportunities.

History has shown that *key change events* have focused the attention of the public, the media, and government on public safety interoperability. The events of September 11th have highlighted deficiencies in communications interoperability. The Homeland Security Office has identified interoperable public safety communications as one of its top priorities, providing an opportunity for funding if we work together.

The cooperation and contributions of Federal, State and Local government as well as private industry are *essential* to achieving an integrated statewide wireless environment.

Critical Success Factors:

These success factors lay the foundation for Kentucky's next steps.

Commit to long-term Interagency Cooperation and Collaboration

Redesign Operational Processes

Establish Requirements

Drive and Embrace Standards

Establish a Funding Strategy

Establish Appropriate Legislation

Develop Partnerships with Wireless Industry.

Provide Comprehensive Education and Training

At this point I would like to introduce the initial members of the Public Safety Working Group as recommended by members of the Wireless Steering Committee:

Sgt. David Boggs - Lexington Police Department

Doug Tackett - Pike Co. 911

Steve Tracy - Woodford Co. 911

Walter Atherton - Daviess Co. Sheriff's Office

James Ritchey – Anderson Co. EMS

Jim Surbeck – Division of Forestry – NREPC

John Crossfield - KY Transportation Cabinet

Jeff Bibb - KY Vehicle Enforcement – Transportation Cabinet

Major Rob Miller – KY State Police

Larry Collier - KY Fire Commission (Wayne Mullannix attending in his stead today)

Absent: - Chief Dale Edmonson – Ft. Thomas Fire Department

- John Patterson – GOT Wireless 911 Board

This effort is intended to be inclusive of all those agencies who wish to participate. Therefore, If your agency would like to be represented, we would welcome your involvement.

I would also like to introduce the Interim Chair of the Public Safety Working Group and Convener of the Region 17 700 MHz Planning Committee, Mr. Bob Stephens with Ky Emergency Management, Department of Military Affairs.

14.0 Appendix G 700 MHz 12.5 KHz Voice General Use Channels Sort By County

County	Class	Channel	Base Frequency	Mobile Frequency
Adair	G	165-166	770.03125	800.03125
Adair	G	167-168	770.04375	800.04375
Adair	G	285-286	770.78125	800.78125
Adair	G	287-288	770.79375	800.79375
Adair	G	437-438	771.73125	801.73125
Adair	G	439-440	771.74375	801.74375
Adair	G	529-530	772.30625	802.30625
Adair	G	531-532	772.31875	802.31875
Adair	G	633-634	772.95625	802.95625
Adair	G	635-636	772.96875	802.96875
Adair	G	741-742	773.63125	803.63125
Adair	G	743-744	773.64375	803.64375
Adair	G	793-794	773.95625	803.95625
Adair	G	795-796	773.96875	803.96875
Adair	G	909-910	774.68125	804.68125
Adair	G	911-912	774.69375	804.69375
Allen	G	13-14	769.08125	799.08125
Allen	G	15-16	769.09375	799.09375
Allen	G	85-86	769.53125	799.53125
Allen	G	87-88	769.54375	799.54375
Allen	G	349-350	771.18125	801.18125
Allen	G	351-352	771.19375	801.19375
Allen	G	393-394	771.45625	801.45625
Allen	G	395-396	771.46875	801.46875
Allen	G	453-454	771.83125	801.83125
Allen	G	455-456	771.84375	801.84375
Allen	G	501-502	772.13125	802.13125
Allen	G	503-504	772.14375	802.14375
Allen	G	781-782	773.88125	803.88125
Allen	G	783-784	773.89375	803.89375
Anderson	G	41-42	769.25625	799.25625
Anderson	G	43-44	769.26875	799.26875
Anderson	G	121-122	769.75625	799.75625
Anderson	G	123-124	769.76875	799.76875
Anderson	G	201-202	770.25625	800.25625
Anderson	G	203-204	770.26875	800.26875
Anderson	G	361-362	771.25625	801.25625
Anderson	G	363-364	771.26875	801.26875
Anderson	G	529-530	772.30625	802.30625
Anderson	G	531-532	772.31875	802.31875

Anderson	G	625-626	772.90625	802.90625
Anderson	G	627-628	772.91875	802.91875
Ballard	G	57-58	769.35625	799.35625
Ballard	G	59-60	769.36875	799.36875
Ballard	G	281-282	770.75625	800.75625
Ballard	G	283-284	770.76875	800.76875
Ballard	G	373-374	771.33125	801.33125
Ballard	G	375-376	771.34375	801.34375
Ballard	G	481-482	772.00625	802.00625
Ballard	G	483-484	772.01875	802.01875
Ballard	G	585-586	772.65625	802.65625
Ballard	G	587-588	772.66875	802.66875
Ballard	G	705-706	773.40625	803.40625
Ballard	G	707-708	773.41875	803.41875
Ballard	G	829-830	774.18125	804.18125
Ballard	G	831-832	774.19375	804.19375
Barren	G	41-42	769.25625	799.25625
Barren	G	43-44	769.26875	799.26875
Barren	G	93-94	769.58125	799.58125
Barren	G	95-96	769.59375	799.59375
Barren	G	137-138	769.85625	799.85625
Barren	G	139-140	769.86875	799.86875
Barren	G	249-250	770.55625	800.55625
Barren	G	251-252	770.56875	800.56875
Barren	G	297-298	770.85625	800.85625
Barren	G	299-300	770.86875	800.86875
Barren	G	381-382	771.38125	801.38125
Barren	G	383-384	771.39375	801.39375
Barren	G	461-462	771.88125	801.88125
Barren	G	463-464	771.89375	801.89375
Barren	G	537-538	772.35625	802.35625
Barren	G	539-540	772.36875	802.36875
Barren	G	589-590	772.68125	802.68125
Barren	G	591-592	772.69375	802.69375
Barren	G	629-630	772.93125	802.93125
Barren	G	631-632	772.94375	802.94375
Barren	G	833-834	774.20625	804.20625
Barren	G	835-836	774.21875	804.21875
Barren	G	877-878	774.48125	804.48125
Barren	G	879-880	774.49375	804.49375
Bath	G	13-14	769.08125	799.08125
Bath	G	15-16	769.09375	799.09375
Bath	G	249-250	770.55625	800.55625
Bath	G	251-252	770.56875	800.56875
Bath	G	365-366	771.28125	801.28125

Bath	G	367-368	771.29375	801.29375
Bath	G	453-454	771.83125	801.83125
Bath	G	455-456	771.84375	801.84375
Bath	G	705-706	773.40625	803.40625
Bath	G	707-708	773.41875	803.41875
Bell	G	177-178	770.10625	800.10625
Bell	G	179-180	770.11875	800.11875
Bell	G	421-422	771.63125	801.63125
Bell	G	423-424	771.64375	801.64375
Bell	G	473-474	771.95625	801.95625
Bell	G	475-476	771.96875	801.96875
Bell	G	533-534	772.33125	802.33125
Bell	G	535-536	772.34375	802.34375
Bell	G	825-826	774.15625	804.15625
Bell	G	827-828	774.16875	804.16875
Boone	G	89-90	769.55625	799.55625
Boone	G	91-92	769.56875	799.56875
Boone	G	161-162	770.00625	800.00625
Boone	G	163-164	770.01875	800.01875
Boone	G	345-346	771.15625	801.15625
Boone	G	347-348	771.16875	801.16875
Boone	G	393-394	771.45625	801.45625
Boone	G	395-396	771.46875	801.46875
Boone	G	465-466	771.90625	801.90625
Boone	G	467-468	771.91875	801.91875
Boone	G	505-506	772.15625	802.15625
Boone	G	507-508	772.16875	802.16875
Boone	G	581-582	772.63125	802.63125
Boone	G	583-584	772.64375	802.64375
Boone	G	629-630	772.93125	802.93125
Boone	G	631-632	772.94375	802.94375
Boone	G	741-742	773.63125	803.63125
Boone	G	743-744	773.64375	803.64375
Bourbon	G	45-46	769.28125	799.28125
Bourbon	G	47-48	769.29375	799.29375
Bourbon	G	281-282	770.75625	800.75625
Bourbon	G	283-284	770.76875	800.76875
Bourbon	G	345-346	771.15625	801.15625
Bourbon	G	347-348	771.16875	801.16875
Bourbon	G	533-534	772.33125	802.33125
Bourbon	G	535-536	772.34375	802.34375
Bourbon	G	629-630	772.93125	802.93125
Bourbon	G	631-632	772.94375	802.94375
Bourbon	G	829-830	774.18125	804.18125
Bourbon	G	831-832	774.19375	804.19375

Boyd	G	241-242	770.50625	800.50625
Boyd	G	243-244	770.51875	800.51875
Boyd	G	289-290	770.80625	800.80625
Boyd	G	291-292	770.81875	800.81875
Boyd	G	337-338	771.10625	801.10625
Boyd	G	339-340	771.11875	801.11875
Boyd	G	397-398	771.48125	801.48125
Boyd	G	399-400	771.49375	801.49375
Boyd	G	489-490	772.05625	802.05625
Boyd	G	491-492	772.06875	802.06875
Boyd	G	561-562	772.50625	802.50625
Boyd	G	563-564	772.51875	802.51875
Boyd	G	757-758	773.73125	803.73125
Boyd	G	759-760	773.74375	803.74375
Boyd	G	797-798	773.98125	803.98125
Boyd	G	799-800	773.99375	803.99375
Boyd	G	941-942	774.88125	804.88125
Boyd	G	943-944	774.89375	804.89375
Boyle	G	249-250	770.55625	800.55625
Boyle	G	251-252	770.56875	800.56875
Boyle	G	365-366	771.28125	801.28125
Boyle	G	367-368	771.29375	801.29375
Boyle	G	445-446	771.78125	801.78125
Boyle	G	447-448	771.79375	801.79375
Boyle	G	485-486	772.03125	802.03125
Boyle	G	487-488	772.04375	802.04375
Boyle	G	577-578	772.60625	802.60625
Boyle	G	579-580	772.61875	802.61875
Boyle	G	665-666	773.15625	803.15625
Boyle	G	667-668	773.16875	803.16875
Bracken	G	41-42	769.25625	799.25625
Bracken	G	43-44	769.26875	799.26875
Bracken	G	329-330	771.05625	801.05625
Bracken	G	331-332	771.06875	801.06875
Bracken	G	461-462	771.88125	801.88125
Bracken	G	463-464	771.89375	801.89375
Bracken	G	709-710	773.43125	803.43125
Bracken	G	711-712	773.44375	803.44375
Bracken	G	861-862	774.38125	804.38125
Bracken	G	863-864	774.39375	804.39375
Breathitt	G	17-18	769.10625	799.10625
Breathitt	G	19-20	769.11875	799.11875
Breathitt	G	97-98	769.60625	799.60625
Breathitt	G	99-100	769.61875	799.61875
Breathitt	G	369-370	771.30625	801.30625

Breathitt	G	371-372	771.31875	801.31875
Breathitt	G	417-418	771.60625	801.60625
Breathitt	G	419-420	771.61875	801.61875
Breathitt	G	745-746	773.65625	803.65625
Breathitt	G	747-748	773.66875	803.66875
Breathitt	G	793-794	773.95625	803.95625
Breathitt	G	795-796	773.96875	803.96875
Breathitt	G	873-874	774.45625	804.45625
Breathitt	G	875-876	774.46875	804.46875
Breckinridge	G	133-134	769.83125	799.83125
Breckinridge	G	135-136	769.84375	799.84375
Breckinridge	G	253-254	770.58125	800.58125
Breckinridge	G	255-256	770.59375	800.59375
Breckinridge	G	409-410	771.55625	801.55625
Breckinridge	G	411-412	771.56875	801.56875
Breckinridge	G	481-482	772.00625	802.00625
Breckinridge	G	483-484	772.01875	802.01875
Breckinridge	G	529-530	772.30625	802.30625
Breckinridge	G	531-532	772.31875	802.31875
Breckinridge	G	597-598	772.73125	802.73125
Breckinridge	G	599-600	772.74375	802.74375
Bullitt	G	93-94	769.58125	799.58125
Bullitt	G	95-96	769.59375	799.59375
Bullitt	G	173-174	770.08125	800.08125
Bullitt	G	175-176	770.09375	800.09375
Bullitt	G	297-298	770.85625	800.85625
Bullitt	G	299-300	770.86875	800.86875
Bullitt	G	421-422	771.63125	801.63125
Bullitt	G	423-424	771.64375	801.64375
Bullitt	G	469-470	771.93125	801.93125
Bullitt	G	471-472	771.94375	801.94375
Bullitt	G	533-534	772.33125	802.33125
Bullitt	G	535-536	772.34375	802.34375
Bullitt	G	573-574	772.58125	802.58125
Bullitt	G	575-576	772.59375	802.59375
Bullitt	G	629-630	772.93125	802.93125
Bullitt	G	631-632	772.94375	802.94375
Bullitt	G	741-742	773.63125	803.63125
Bullitt	G	743-744	773.64375	803.64375
Bullitt	G	909-910	774.68125	804.68125
Bullitt	G	911-912	774.69375	804.69375
Butler	G	293-294	770.83125	800.83125
Butler	G	295-296	770.84375	800.84375
Butler	G	389-390	771.43125	801.43125
Butler	G	391-392	771.44375	801.44375

Butler	G	449-450	771.80625	801.80625
Butler	G	451-452	771.81875	801.81875
Butler	G	829-830	774.18125	804.18125
Butler	G	831-832	774.19375	804.19375
Butler	G	869-870	774.43125	804.43125
Butler	G	871-872	774.44375	804.44375
Caldwell	G	201-202	770.25625	800.25625
Caldwell	G	203-204	770.26875	800.26875
Caldwell	G	389-390	771.43125	801.43125
Caldwell	G	391-392	771.44375	801.44375
Caldwell	G	433-434	771.70625	801.70625
Caldwell	G	435-436	771.71875	801.71875
Caldwell	G	485-486	772.03125	802.03125
Caldwell	G	487-488	772.04375	802.04375
Caldwell	G	561-562	772.50625	802.50625
Caldwell	G	563-564	772.51875	802.51875
Caldwell	G	617-618	772.85625	802.85625
Caldwell	G	619-620	772.86875	802.86875
Caldwell	G	861-862	774.38125	804.38125
Caldwell	G	863-864	774.39375	804.39375
Calloway	G	13-14	769.08125	799.08125
Calloway	G	15-16	769.09375	799.09375
Calloway	G	165-166	770.03125	800.03125
Calloway	G	167-168	770.04375	800.04375
Calloway	G	449-450	771.80625	801.80625
Calloway	G	451-452	771.81875	801.81875
Calloway	G	489-490	772.05625	802.05625
Calloway	G	491-492	772.06875	802.06875
Calloway	G	529-530	772.30625	802.30625
Calloway	G	531-532	772.31875	802.31875
Calloway	G	573-574	772.58125	802.58125
Calloway	G	575-576	772.59375	802.59375
Calloway	G	613-614	772.83125	802.83125
Calloway	G	615-616	772.84375	802.84375
Calloway	G	821-822	774.13125	804.13125
Calloway	G	823-824	774.14375	804.14375
Calloway	G	873-874	774.45625	804.45625
Calloway	G	875-876	774.46875	804.46875
Campbell	G	169-170	770.05625	800.05625
Campbell	G	171-172	770.06875	800.06875
Campbell	G	285-286	770.78125	800.78125
Campbell	G	287-288	770.79375	800.79375
Campbell	G	349-350	771.18125	801.18125
Campbell	G	351-352	771.19375	801.19375
Campbell	G	413-414	771.58125	801.58125

Campbell	G	415-416	771.59375	801.59375
Campbell	G	513-514	772.20625	802.20625
Campbell	G	515-516	772.21875	802.21875
Campbell	G	569-570	772.55625	802.55625
Campbell	G	571-572	772.56875	802.56875
Campbell	G	609-610	772.80625	802.80625
Campbell	G	611-612	772.81875	802.81875
Campbell	G	869-870	774.43125	804.43125
Campbell	G	871-872	774.44375	804.44375
Campbell	G	909-910	774.68125	804.68125
Campbell	G	911-912	774.69375	804.69375
Carlisle	G	41-42	769.25625	799.25625
Carlisle	G	43-44	769.26875	799.26875
Carlisle	G	81-82	769.50625	799.50625
Carlisle	G	83-84	769.51875	799.51875
Carlisle	G	361-362	771.25625	801.25625
Carlisle	G	363-364	771.26875	801.26875
Carlisle	G	493-494	772.08125	802.08125
Carlisle	G	495-496	772.09375	802.09375
Carlisle	G	545-546	772.40625	802.40625
Carlisle	G	547-548	772.41875	802.41875
Carlisle	G	865-866	774.40625	804.40625
Carlisle	G	867-868	774.41875	804.41875
Carroll	G	365-366	771.28125	801.28125
Carroll	G	367-368	771.29375	801.29375
Carroll	G	409-410	771.55625	801.55625
Carroll	G	411-412	771.56875	801.56875
Carroll	G	449-450	771.80625	801.80625
Carroll	G	451-452	771.81875	801.81875
Carroll	G	561-562	772.50625	802.50625
Carroll	G	563-564	772.51875	802.51875
Carroll	G	633-634	772.95625	802.95625
Carroll	G	635-636	772.96875	802.96875
Carter	G	49-50	769.30625	799.30625
Carter	G	51-52	769.31875	799.31875
Carter	G	121-122	769.75625	799.75625
Carter	G	123-124	769.76875	799.76875
Carter	G	321-322	771.00625	801.00625
Carter	G	323-324	771.01875	801.01875
Carter	G	385-386	771.40625	801.40625
Carter	G	387-388	771.41875	801.41875
Carter	G	473-474	771.95625	801.95625
Carter	G	475-476	771.96875	801.96875
Carter	G	545-546	772.40625	802.40625
Carter	G	547-548	772.41875	802.41875

Carter	G	909-910	774.68125	804.68125
Carter	G	911-912	774.69375	804.69375
Casey	G	209-210	770.30625	800.30625
Casey	G	211-212	770.31875	800.31875
Casey	G	373-374	771.33125	801.33125
Casey	G	375-376	771.34375	801.34375
Casey	G	425-426	771.65625	801.65625
Casey	G	427-428	771.66875	801.66875
Casey	G	465-466	771.90625	801.90625
Casey	G	467-468	771.91875	801.91875
Casey	G	569-570	772.55625	802.55625
Casey	G	571-572	772.56875	802.56875
Christian	G	57-58	769.35625	799.35625
Christian	G	59-60	769.36875	799.36875
Christian	G	97-98	769.60625	799.60625
Christian	G	99-100	769.61875	799.61875
Christian	G	173-174	770.08125	800.08125
Christian	G	175-176	770.09375	800.09375
Christian	G	217-218	770.35625	800.35625
Christian	G	219-220	770.36875	800.36875
Christian	G	257-258	770.60625	800.60625
Christian	G	259-260	770.61875	800.61875
Christian	G	297-298	770.85625	800.85625
Christian	G	299-300	770.86875	800.86875
Christian	G	353-354	771.20625	801.20625
Christian	G	355-356	771.21875	801.21875
Christian	G	405-406	771.53125	801.53125
Christian	G	407-408	771.54375	801.54375
Christian	G	525-526	772.28125	802.28125
Christian	G	527-528	772.29375	802.29375
Christian	G	581-582	772.63125	802.63125
Christian	G	583-584	772.64375	802.64375
Christian	G	677-678	773.23125	803.23125
Christian	G	679-680	773.24375	803.24375
Christian	G	741-742	773.63125	803.63125
Christian	G	743-744	773.64375	803.64375
Christian	G	793-794	773.95625	803.95625
Christian	G	795-796	773.96875	803.96875
Christian	G	837-838	774.23125	804.23125
Christian	G	839-840	774.24375	804.24375
Christian	G	877-878	774.48125	804.48125
Christian	G	879-880	774.49375	804.49375
Christian	G	941-942	774.88125	804.88125
Christian	G	943-944	774.89375	804.89375
Clark	G	161-162	770.00625	800.00625

Clark	G	163-164	770.01875	800.01875
Clark	G	245-246	770.53125	800.53125
Clark	G	247-248	770.54375	800.54375
Clark	G	325-326	771.03125	801.03125
Clark	G	327-328	771.04375	801.04375
Clark	G	377-378	771.35625	801.35625
Clark	G	379-380	771.36875	801.36875
Clark	G	429-430	771.68125	801.68125
Clark	G	431-432	771.69375	801.69375
Clark	G	497-498	772.10625	802.10625
Clark	G	499-500	772.11875	802.11875
Clark	G	549-550	772.43125	802.43125
Clark	G	551-552	772.44375	802.44375
Clark	G	757-758	773.73125	803.73125
Clark	G	759-760	773.74375	803.74375
Clay	G	89-90	769.55625	799.55625
Clay	G	91-92	769.56875	799.56875
Clay	G	165-166	770.03125	800.03125
Clay	G	167-168	770.04375	800.04375
Clay	G	377-378	771.35625	801.35625
Clay	G	379-380	771.36875	801.36875
Clay	G	517-518	772.23125	802.23125
Clay	G	519-520	772.24375	802.24375
Clay	G	585-586	772.65625	802.65625
Clay	G	587-588	772.66875	802.66875
Clay	G	661-662	773.13125	803.13125
Clay	G	663-664	773.14375	803.14375
Clay	G	705-706	773.40625	803.40625
Clay	G	707-708	773.41875	803.41875
Clay	G	945-946	774.90625	804.90625
Clay	G	947-948	774.91875	804.91875
Clinton	G	49-50	769.30625	799.30625
Clinton	G	51-52	769.31875	799.31875
Clinton	G	97-98	769.60625	799.60625
Clinton	G	99-100	769.61875	799.61875
Clinton	G	349-350	771.18125	801.18125
Clinton	G	351-352	771.19375	801.19375
Clinton	G	409-410	771.55625	801.55625
Clinton	G	411-412	771.56875	801.56875
Clinton	G	521-522	772.25625	802.25625
Clinton	G	523-524	772.26875	802.26875
Clinton	G	785-786	773.90625	803.90625
Clinton	G	787-788	773.91875	803.91875
Crittenden	G	89-90	769.55625	799.55625
Crittenden	G	91-92	769.56875	799.56875

Crittenden	G	421-422	771.63125	801.63125
Crittenden	G	423-424	771.64375	801.64375
Crittenden	G	473-474	771.95625	801.95625
Crittenden	G	475-476	771.96875	801.96875
Crittenden	G	533-534	772.33125	802.33125
Crittenden	G	535-536	772.34375	802.34375
Crittenden	G	745-746	773.65625	803.65625
Crittenden	G	747-748	773.66875	803.66875
Cumberland	G	57-58	769.35625	799.35625
Cumberland	G	59-60	769.36875	799.36875
Cumberland	G	125-126	769.78125	799.78125
Cumberland	G	127-128	769.79375	799.79375
Cumberland	G	241-242	770.50625	800.50625
Cumberland	G	243-244	770.51875	800.51875
Cumberland	G	385-386	771.40625	801.40625
Cumberland	G	387-388	771.41875	801.41875
Cumberland	G	445-446	771.78125	801.78125
Cumberland	G	447-448	771.79375	801.79375
Cumberland	G	565-566	772.53125	802.53125
Cumberland	G	567-568	772.54375	802.54375
Cumberland	G	613-614	772.83125	802.83125
Cumberland	G	615-616	772.84375	802.84375
Daviess	G	13-14	769.08125	799.08125
Daviess	G	15-16	769.09375	799.09375
Daviess	G	93-94	769.58125	799.58125
Daviess	G	95-96	769.59375	799.59375
Daviess	G	169-170	770.05625	800.05625
Daviess	G	171-172	770.06875	800.06875
Daviess	G	213-214	770.33125	800.33125
Daviess	G	215-216	770.34375	800.34375
Daviess	G	281-282	770.75625	800.75625
Daviess	G	283-284	770.76875	800.76875
Daviess	G	329-330	771.05625	801.05625
Daviess	G	331-332	771.06875	801.06875
Daviess	G	377-378	771.35625	801.35625
Daviess	G	379-380	771.36875	801.36875
Daviess	G	437-438	771.73125	801.73125
Daviess	G	439-440	771.74375	801.74375
Daviess	G	489-490	772.05625	802.05625
Daviess	G	491-492	772.06875	802.06875
Daviess	G	585-586	772.65625	802.65625
Daviess	G	587-588	772.66875	802.66875
Daviess	G	637-638	772.98125	802.98125
Daviess	G	639-640	772.99375	802.99375
Daviess	G	709-710	773.43125	803.43125

Daviess	G	711-712	773.44375	803.44375
Daviess	G	749-750	773.68125	803.68125
Daviess	G	751-752	773.69375	803.69375
Daviess	G	789-790	773.93125	803.93125
Daviess	G	791-792	773.94375	803.94375
Daviess	G	833-834	774.20625	804.20625
Daviess	G	835-836	774.21875	804.21875
Daviess	G	873-874	774.45625	804.45625
Daviess	G	875-876	774.46875	804.46875
Daviess	G	945-946	774.90625	804.90625
Daviess	G	947-948	774.91875	804.91875
Edmonson	G	173-174	770.08125	800.08125
Edmonson	G	175-176	770.09375	800.09375
Edmonson	G	365-366	771.28125	801.28125
Edmonson	G	367-368	771.29375	801.29375
Edmonson	G	425-426	771.65625	801.65625
Edmonson	G	427-428	771.66875	801.66875
Edmonson	G	477-478	771.98125	801.98125
Edmonson	G	479-480	771.99375	801.99375
Edmonson	G	573-574	772.58125	802.58125
Edmonson	G	575-576	772.59375	802.59375
Edmonson	G	917-918	774.73125	804.73125
Edmonson	G	919-920	774.74375	804.74375
Elliott	G	413-414	771.58125	801.58125
Elliott	G	415-416	771.59375	801.59375
Elliott	G	601-602	772.75625	802.75625
Elliott	G	603-604	772.76875	802.76875
Elliott	G	669-670	773.18125	803.18125
Elliott	G	671-672	773.19375	803.19375
Elliott	G	753-754	773.70625	803.70625
Elliott	G	755-756	773.71875	803.71875
Elliott	G	861-862	774.38125	804.38125
Elliott	G	863-864	774.39375	804.39375
Estill	G	41-42	769.25625	799.25625
Estill	G	43-44	769.26875	799.26875
Estill	G	125-126	769.78125	799.78125
Estill	G	127-128	769.79375	799.79375
Estill	G	201-202	770.25625	800.25625
Estill	G	203-204	770.26875	800.26875
Estill	G	525-526	772.28125	802.28125
Estill	G	527-528	772.29375	802.29375
Estill	G	625-626	772.90625	802.90625
Estill	G	627-628	772.91875	802.91875
Fayette	G	17-18	769.10625	799.10625
Fayette	G	19-20	769.11875	799.11875

Fayette	G	81-82	769.50625	799.50625
Fayette	G	83-84	769.51875	799.51875
Fayette	G	129-130	769.80625	799.80625
Fayette	G	131-132	769.81875	799.81875
Fayette	G	173-174	770.08125	800.08125
Fayette	G	175-176	770.09375	800.09375
Fayette	G	213-214	770.33125	800.33125
Fayette	G	215-216	770.34375	800.34375
Fayette	G	253-254	770.58125	800.58125
Fayette	G	255-256	770.59375	800.59375
Fayette	G	297-298	770.85625	800.85625
Fayette	G	299-300	770.86875	800.86875
Fayette	G	369-370	771.30625	801.30625
Fayette	G	371-372	771.31875	801.31875
Fayette	G	413-414	771.58125	801.58125
Fayette	G	415-416	771.59375	801.59375
Fayette	G	469-470	771.93125	801.93125
Fayette	G	471-472	771.94375	801.94375
Fayette	G	573-574	772.58125	802.58125
Fayette	G	575-576	772.59375	802.59375
Fayette	G	613-614	772.83125	802.83125
Fayette	G	615-616	772.84375	802.84375
Fayette	G	661-662	773.13125	803.13125
Fayette	G	663-664	773.14375	803.14375
Fayette	G	717-718	773.48125	803.48125
Fayette	G	719-720	773.49375	803.49375
Fayette	G	781-782	773.88125	803.88125
Fayette	G	783-784	773.89375	803.89375
Fayette	G	821-822	774.13125	804.13125
Fayette	G	823-824	774.14375	804.14375
Fayette	G	869-870	774.43125	804.43125
Fayette	G	871-872	774.44375	804.44375
Fayette	G	909-910	774.68125	804.68125
Fayette	G	911-912	774.69375	804.69375
Fleming	G	57-58	769.35625	799.35625
Fleming	G	59-60	769.36875	799.36875
Fleming	G	133-134	769.83125	799.83125
Fleming	G	135-136	769.84375	799.84375
Fleming	G	481-482	772.00625	802.00625
Fleming	G	483-484	772.01875	802.01875
Fleming	G	529-530	772.30625	802.30625
Fleming	G	531-532	772.31875	802.31875
Fleming	G	581-582	772.63125	802.63125
Fleming	G	583-584	772.64375	802.64375
Fleming	G	665-666	773.15625	803.15625

Fleming	G	667-668	773.16875	803.16875
Fleming	G	877-878	774.48125	804.48125
Fleming	G	879-880	774.49375	804.49375
Floyd	G	41-42	769.25625	799.25625
Floyd	G	43-44	769.26875	799.26875
Floyd	G	85-86	769.53125	799.53125
Floyd	G	87-88	769.54375	799.54375
Floyd	G	169-170	770.05625	800.05625
Floyd	G	171-172	770.06875	800.06875
Floyd	G	217-218	770.35625	800.35625
Floyd	G	219-220	770.36875	800.36875
Floyd	G	297-298	770.85625	800.85625
Floyd	G	299-300	770.86875	800.86875
Floyd	G	401-402	771.50625	801.50625
Floyd	G	403-404	771.51875	801.51875
Floyd	G	457-458	771.85625	801.85625
Floyd	G	459-460	771.86875	801.86875
Floyd	G	509-510	772.18125	802.18125
Floyd	G	511-512	772.19375	802.19375
Floyd	G	665-666	773.15625	803.15625
Floyd	G	667-668	773.16875	803.16875
Floyd	G	781-782	773.88125	803.88125
Floyd	G	783-784	773.89375	803.89375
Franklin	G	57-58	769.35625	799.35625
Franklin	G	59-60	769.36875	799.36875
Franklin	G	381-382	771.38125	801.38125
Franklin	G	383-384	771.39375	801.39375
Franklin	G	457-458	771.85625	801.85625
Franklin	G	459-460	771.86875	801.86875
Franklin	G	501-502	772.13125	802.13125
Franklin	G	503-504	772.14375	802.14375
Franklin	G	553-554	772.45625	802.45625
Franklin	G	555-556	772.46875	802.46875
Franklin	G	669-670	773.18125	803.18125
Franklin	G	671-672	773.19375	803.19375
Franklin	G	877-878	774.48125	804.48125
Franklin	G	879-880	774.49375	804.49375
Franklin	G	941-942	774.88125	804.88125
Franklin	G	943-944	774.89375	804.89375
Fulton	G	425-426	771.65625	801.65625
Fulton	G	427-428	771.66875	801.66875
Fulton	G	525-526	772.28125	802.28125
Fulton	G	527-528	772.29375	802.29375
Fulton	G	617-618	772.85625	802.85625
Fulton	G	619-620	772.86875	802.86875

Fulton	G	717-718	773.48125	803.48125
Fulton	G	719-720	773.49375	803.49375
Fulton	G	869-870	774.43125	804.43125
Fulton	G	871-872	774.44375	804.44375
Gallatin	G	17-18	769.10625	799.10625
Gallatin	G	19-20	769.11875	799.11875
Gallatin	G	297-298	770.85625	800.85625
Gallatin	G	299-300	770.86875	800.86875
Gallatin	G	717-718	773.48125	803.48125
Gallatin	G	719-720	773.49375	803.49375
Gallatin	G	833-834	774.20625	804.20625
Gallatin	G	835-836	774.21875	804.21875
Gallatin	G	873-874	774.45625	804.45625
Gallatin	G	875-876	774.46875	804.46875
Garrard	G	205-206	770.28125	800.28125
Garrard	G	207-208	770.29375	800.29375
Garrard	G	321-322	771.00625	801.00625
Garrard	G	323-324	771.01875	801.01875
Garrard	G	385-386	771.40625	801.40625
Garrard	G	387-388	771.41875	801.41875
Garrard	G	521-522	772.25625	802.25625
Garrard	G	523-524	772.26875	802.26875
Garrard	G	797-798	773.98125	803.98125
Garrard	G	799-800	773.99375	803.99375
Grant	G	125-126	769.78125	799.78125
Grant	G	127-128	769.79375	799.79375
Grant	G	321-322	771.00625	801.00625
Grant	G	323-324	771.01875	801.01875
Grant	G	373-374	771.33125	801.33125
Grant	G	375-376	771.34375	801.34375
Grant	G	445-446	771.78125	801.78125
Grant	G	447-448	771.79375	801.79375
Grant	G	489-490	772.05625	802.05625
Grant	G	491-492	772.06875	802.06875
Grant	G	797-798	773.98125	803.98125
Grant	G	799-800	773.99375	803.99375
Graves	G	121-122	769.75625	799.75625
Graves	G	123-124	769.76875	799.76875
Graves	G	205-206	770.28125	800.28125
Graves	G	207-208	770.29375	800.29375
Graves	G	249-250	770.55625	800.55625
Graves	G	251-252	770.56875	800.56875
Graves	G	289-290	770.80625	800.80625
Graves	G	291-292	770.81875	800.81875
Graves	G	341-342	771.13125	801.13125

Graves	G	343-344	771.14375	801.14375
Graves	G	381-382	771.38125	801.38125
Graves	G	383-384	771.39375	801.39375
Graves	G	437-438	771.73125	801.73125
Graves	G	439-440	771.74375	801.74375
Graves	G	513-514	772.20625	802.20625
Graves	G	515-516	772.21875	802.21875
Graves	G	553-554	772.45625	802.45625
Graves	G	555-556	772.46875	802.46875
Graves	G	629-630	772.93125	802.93125
Graves	G	631-632	772.94375	802.94375
Graves	G	789-790	773.93125	803.93125
Graves	G	791-792	773.94375	803.94375
Grayson	G	89-90	769.55625	799.55625
Grayson	G	91-92	769.56875	799.56875
Grayson	G	357-358	771.23125	801.23125
Grayson	G	359-360	771.24375	801.24375
Grayson	G	441-442	771.75625	801.75625
Grayson	G	443-444	771.76875	801.76875
Grayson	G	509-510	772.18125	802.18125
Grayson	G	511-512	772.19375	802.19375
Grayson	G	549-550	772.43125	802.43125
Grayson	G	551-552	772.44375	802.44375
Grayson	G	613-614	772.83125	802.83125
Grayson	G	615-616	772.84375	802.84375
Grayson	G	905-906	774.65625	804.65625
Grayson	G	907-908	774.66875	804.66875
Green	G	205-206	770.28125	800.28125
Green	G	207-208	770.29375	800.29375
Green	G	353-354	771.20625	801.20625
Green	G	355-356	771.21875	801.21875
Green	G	449-450	771.80625	801.80625
Green	G	451-452	771.81875	801.81875
Green	G	505-506	772.15625	802.15625
Green	G	507-508	772.16875	802.16875
Green	G	609-610	772.80625	802.80625
Green	G	611-612	772.81875	802.81875
Greenup	G	41-42	769.25625	799.25625
Greenup	G	43-44	769.26875	799.26875
Greenup	G	173-174	770.08125	800.08125
Greenup	G	175-176	770.09375	800.09375
Greenup	G	437-438	771.73125	801.73125
Greenup	G	439-440	771.74375	801.74375
Greenup	G	517-518	772.23125	802.23125
Greenup	G	519-520	772.24375	802.24375

Greenup	G	605-606	772.78125	802.78125
Greenup	G	607-608	772.79375	802.79375
Greenup	G	673-674	773.20625	803.20625
Greenup	G	675-676	773.21875	803.21875
Greenup	G	741-742	773.63125	803.63125
Greenup	G	743-744	773.64375	803.64375
Greenup	G	901-902	774.63125	804.63125
Greenup	G	903-904	774.64375	804.64375
Hancock	G	349-350	771.18125	801.18125
Hancock	G	351-352	771.19375	801.19375
Hancock	G	397-398	771.48125	801.48125
Hancock	G	399-400	771.49375	801.49375
Hancock	G	521-522	772.25625	802.25625
Hancock	G	523-524	772.26875	802.26875
Hancock	G	625-626	772.90625	802.90625
Hancock	G	627-628	772.91875	802.91875
Hancock	G	665-666	773.15625	803.15625
Hancock	G	667-668	773.16875	803.16875
Hancock	G	741-742	773.63125	803.63125
Hancock	G	743-744	773.64375	803.64375
Hancock	G	821-822	774.13125	804.13125
Hancock	G	823-824	774.14375	804.14375
Hardin	G	57-58	769.35625	799.35625
Hardin	G	59-60	769.36875	799.36875
Hardin	G	125-126	769.78125	799.78125
Hardin	G	127-128	769.79375	799.79375
Hardin	G	241-242	770.50625	800.50625
Hardin	G	243-244	770.51875	800.51875
Hardin	G	289-290	770.80625	800.80625
Hardin	G	291-292	770.81875	800.81875
Hardin	G	337-338	771.10625	801.10625
Hardin	G	339-340	771.11875	801.11875
Hardin	G	385-386	771.40625	801.40625
Hardin	G	387-388	771.41875	801.41875
Hardin	G	453-454	771.83125	801.83125
Hardin	G	455-456	771.84375	801.84375
Hardin	G	501-502	772.13125	802.13125
Hardin	G	503-504	772.14375	802.14375
Hardin	G	541-542	772.38125	802.38125
Hardin	G	543-544	772.39375	802.39375
Hardin	G	581-582	772.63125	802.63125
Hardin	G	583-584	772.64375	802.64375
Hardin	G	661-662	773.13125	803.13125
Hardin	G	663-664	773.14375	803.14375
Hardin	G	705-706	773.40625	803.40625

Hardin	G	707-708	773.41875	803.41875
Hardin	G	785-786	773.90625	803.90625
Hardin	G	787-788	773.91875	803.91875
Hardin	G	865-866	774.40625	804.40625
Hardin	G	867-868	774.41875	804.41875
Harlan	G	13-14	769.08125	799.08125
Harlan	G	15-16	769.09375	799.09375
Harlan	G	345-346	771.15625	801.15625
Harlan	G	347-348	771.16875	801.16875
Harlan	G	453-454	771.83125	801.83125
Harlan	G	455-456	771.84375	801.84375
Harlan	G	601-602	772.75625	802.75625
Harlan	G	603-604	772.76875	802.76875
Harlan	G	741-742	773.63125	803.63125
Harlan	G	743-744	773.64375	803.64375
Harlan	G	877-878	774.48125	804.48125
Harlan	G	879-880	774.49375	804.49375
Harrison	G	53-54	769.33125	799.33125
Harrison	G	55-56	769.34375	799.34375
Harrison	G	389-390	771.43125	801.43125
Harrison	G	391-392	771.44375	801.44375
Harrison	G	433-434	771.70625	801.70625
Harrison	G	435-436	771.71875	801.71875
Harrison	G	593-594	772.70625	802.70625
Harrison	G	595-596	772.71875	802.71875
Harrison	G	637-638	772.98125	802.98125
Harrison	G	639-640	772.99375	802.99375
Hart	G	81-82	769.50625	799.50625
Hart	G	83-84	769.51875	799.51875
Hart	G	257-258	770.60625	800.60625
Hart	G	259-260	770.61875	800.61875
Hart	G	405-406	771.53125	801.53125
Hart	G	407-408	771.54375	801.54375
Hart	G	525-526	772.28125	802.28125
Hart	G	527-528	772.29375	802.29375
Hart	G	601-602	772.75625	802.75625
Hart	G	603-604	772.76875	802.76875
Hart	G	745-746	773.65625	803.65625
Hart	G	747-748	773.66875	803.66875
Hart	G	945-946	774.90625	804.90625
Hart	G	947-948	774.91875	804.91875
Henderson	G	45-46	769.28125	799.28125
Henderson	G	47-48	769.29375	799.29375
Henderson	G	85-86	769.53125	799.53125
Henderson	G	87-88	769.54375	799.54375

Henderson	G	137-138	769.85625	799.85625
Henderson	G	139-140	769.86875	799.86875
Henderson	G	177-178	770.10625	800.10625
Henderson	G	179-180	770.11875	800.11875
Henderson	G	345-346	771.15625	801.15625
Henderson	G	347-348	771.16875	801.16875
Henderson	G	385-386	771.40625	801.40625
Henderson	G	387-388	771.41875	801.41875
Henderson	G	429-430	771.68125	801.68125
Henderson	G	431-432	771.69375	801.69375
Henderson	G	577-578	772.60625	802.60625
Henderson	G	579-580	772.61875	802.61875
Henderson	G	621-622	772.88125	802.88125
Henderson	G	623-624	772.89375	802.89375
Henderson	G	781-782	773.88125	803.88125
Henderson	G	783-784	773.89375	803.89375
Henry	G	205-206	770.28125	800.28125
Henry	G	207-208	770.29375	800.29375
Henry	G	417-418	771.60625	801.60625
Henry	G	419-420	771.61875	801.61875
Henry	G	513-514	772.20625	802.20625
Henry	G	515-516	772.21875	802.21875
Henry	G	569-570	772.55625	802.55625
Henry	G	571-572	772.56875	802.56875
Henry	G	621-622	772.88125	802.88125
Henry	G	623-624	772.89375	802.89375
Hickman	G	353-354	771.20625	801.20625
Hickman	G	355-356	771.21875	801.21875
Hickman	G	445-446	771.78125	801.78125
Hickman	G	447-448	771.79375	801.79375
Hickman	G	485-486	772.03125	802.03125
Hickman	G	487-488	772.04375	802.04375
Hickman	G	709-710	773.43125	803.43125
Hickman	G	711-712	773.44375	803.44375
Hickman	G	901-902	774.63125	804.63125
Hickman	G	903-904	774.64375	804.64375
Hopkins	G	81-82	769.50625	799.50625
Hopkins	G	83-84	769.51875	799.51875
Hopkins	G	133-134	769.83125	799.83125
Hopkins	G	135-136	769.84375	799.84375
Hopkins	G	241-242	770.50625	800.50625
Hopkins	G	243-244	770.51875	800.51875
Hopkins	G	289-290	770.80625	800.80625
Hopkins	G	291-292	770.81875	800.81875
Hopkins	G	361-362	771.25625	801.25625

Hopkins	G	363-364	771.26875	801.26875
Hopkins	G	453-454	771.83125	801.83125
Hopkins	G	455-456	771.84375	801.84375
Hopkins	G	513-514	772.20625	802.20625
Hopkins	G	515-516	772.21875	802.21875
Hopkins	G	553-554	772.45625	802.45625
Hopkins	G	555-556	772.46875	802.46875
Hopkins	G	609-610	772.80625	802.80625
Hopkins	G	611-612	772.81875	802.81875
Hopkins	G	701-702	773.38125	803.38125
Hopkins	G	703-704	773.39375	803.39375
Hopkins	G	757-758	773.73125	803.73125
Hopkins	G	759-760	773.74375	803.74375
Hopkins	G	905-906	774.65625	804.65625
Hopkins	G	907-908	774.66875	804.66875
Jackson	G	57-58	769.35625	799.35625
Jackson	G	59-60	769.36875	799.36875
Jackson	G	137-138	769.85625	799.85625
Jackson	G	139-140	769.86875	799.86875
Jackson	G	241-242	770.50625	800.50625
Jackson	G	243-244	770.51875	800.51875
Jackson	G	397-398	771.48125	801.48125
Jackson	G	399-400	771.49375	801.49375
Jackson	G	553-554	772.45625	802.45625
Jackson	G	555-556	772.46875	802.46875
Jefferson	G	45-46	769.28125	799.28125
Jefferson	G	47-48	769.29375	799.29375
Jefferson	G	85-86	769.53125	799.53125
Jefferson	G	87-88	769.54375	799.54375
Jefferson	G	137-138	769.85625	799.85625
Jefferson	G	139-140	769.86875	799.86875
Jefferson	G	209-210	770.30625	800.30625
Jefferson	G	211-212	770.31875	800.31875
Jefferson	G	257-258	770.60625	800.60625
Jefferson	G	259-260	770.61875	800.61875
Jefferson	G	321-322	771.00625	801.00625
Jefferson	G	323-324	771.01875	801.01875
Jefferson	G	373-374	771.33125	801.33125
Jefferson	G	375-376	771.34375	801.34375
Jefferson	G	413-414	771.58125	801.58125
Jefferson	G	415-416	771.59375	801.59375
Jefferson	G	461-462	771.88125	801.88125
Jefferson	G	463-464	771.89375	801.89375
Jefferson	G	525-526	772.28125	802.28125
Jefferson	G	527-528	772.29375	802.29375

Jefferson	G	565-566	772.53125	802.53125
Jefferson	G	567-568	772.54375	802.54375
Jefferson	G	605-606	772.78125	802.78125
Jefferson	G	607-608	772.79375	802.79375
Jefferson	G	673-674	773.20625	803.20625
Jefferson	G	675-676	773.21875	803.21875
Jefferson	G	713-714	773.45625	803.45625
Jefferson	G	715-716	773.46875	803.46875
Jefferson	G	753-754	773.70625	803.70625
Jefferson	G	755-756	773.71875	803.71875
Jefferson	G	793-794	773.95625	803.95625
Jefferson	G	795-796	773.96875	803.96875
Jefferson	G	833-834	774.20625	804.20625
Jefferson	G	835-836	774.21875	804.21875
Jefferson	G	873-874	774.45625	804.45625
Jefferson	G	875-876	774.46875	804.46875
Jefferson	G	945-946	774.90625	804.90625
Jefferson	G	947-948	774.91875	804.91875
Jessamine	G	349-350	771.18125	801.18125
Jessamine	G	351-352	771.19375	801.19375
Jessamine	G	393-394	771.45625	801.45625
Jessamine	G	395-396	771.46875	801.46875
Jessamine	G	437-438	771.73125	801.73125
Jessamine	G	439-440	771.74375	801.74375
Jessamine	G	505-506	772.15625	802.15625
Jessamine	G	507-508	772.16875	802.16875
Jessamine	G	633-634	772.95625	802.95625
Jessamine	G	635-636	772.96875	802.96875
Jessamine	G	709-710	773.43125	803.43125
Jessamine	G	711-712	773.44375	803.44375
Jessamine	G	833-834	774.20625	804.20625
Jessamine	G	835-836	774.21875	804.21875
Jessamine	G	945-946	774.90625	804.90625
Jessamine	G	947-948	774.91875	804.91875
Johnson	G	161-162	770.00625	800.00625
Johnson	G	163-164	770.01875	800.01875
Johnson	G	205-206	770.28125	800.28125
Johnson	G	207-208	770.29375	800.29375
Johnson	G	257-258	770.60625	800.60625
Johnson	G	259-260	770.61875	800.61875
Johnson	G	549-550	772.43125	802.43125
Johnson	G	551-552	772.44375	802.44375
Johnson	G	593-594	772.70625	802.70625
Johnson	G	595-596	772.71875	802.71875
Johnson	G	637-638	772.98125	802.98125

Johnson	G	639-640	772.99375	802.99375
Johnson	G	825-826	774.15625	804.15625
Johnson	G	827-828	774.16875	804.16875
Johnson	G	869-870	774.43125	804.43125
Johnson	G	871-872	774.44375	804.44375
Kenton	G	49-50	769.30625	799.30625
Kenton	G	51-52	769.31875	799.31875
Kenton	G	201-202	770.25625	800.25625
Kenton	G	203-204	770.26875	800.26875
Kenton	G	257-258	770.60625	800.60625
Kenton	G	259-260	770.61875	800.61875
Kenton	G	361-362	771.25625	801.25625
Kenton	G	363-364	771.26875	801.26875
Kenton	G	405-406	771.53125	801.53125
Kenton	G	407-408	771.54375	801.54375
Kenton	G	453-454	771.83125	801.83125
Kenton	G	455-456	771.84375	801.84375
Kenton	G	537-538	772.35625	802.35625
Kenton	G	539-540	772.36875	802.36875
Kenton	G	589-590	772.68125	802.68125
Kenton	G	591-592	772.69375	802.69375
Kenton	G	705-706	773.40625	803.40625
Kenton	G	707-708	773.41875	803.41875
Kenton	G	825-826	774.15625	804.15625
Kenton	G	827-828	774.16875	804.16875
Kenton	G	901-902	774.63125	804.63125
Kenton	G	903-904	774.64375	804.64375
Knott	G	49-50	769.30625	799.30625
Knott	G	51-52	769.31875	799.31875
Knott	G	381-382	771.38125	801.38125
Knott	G	383-384	771.39375	801.39375
Knott	G	437-438	771.73125	801.73125
Knott	G	439-440	771.74375	801.74375
Knott	G	497-498	772.10625	802.10625
Knott	G	499-500	772.11875	802.11875
Knott	G	589-590	772.68125	802.68125
Knott	G	591-592	772.69375	802.69375
Knott	G	709-710	773.43125	803.43125
Knott	G	711-712	773.44375	803.44375
Knox	G	205-206	770.28125	800.28125
Knox	G	207-208	770.29375	800.29375
Knox	G	257-258	770.60625	800.60625
Knox	G	259-260	770.61875	800.61875
Knox	G	325-326	771.03125	801.03125
Knox	G	327-328	771.04375	801.04375

Knox	G	365-366	771.28125	801.28125
Knox	G	367-368	771.29375	801.29375
Knox	G	441-442	771.75625	801.75625
Knox	G	443-444	771.76875	801.76875
Knox	G	489-490	772.05625	802.05625
Knox	G	491-492	772.06875	802.06875
Knox	G	593-594	772.70625	802.70625
Knox	G	595-596	772.71875	802.71875
Knox	G	797-798	773.98125	803.98125
Knox	G	799-800	773.99375	803.99375
Knox	G	869-870	774.43125	804.43125
Knox	G	871-872	774.44375	804.44375
Larue	G	213-214	770.33125	800.33125
Larue	G	215-216	770.34375	800.34375
Larue	G	369-370	771.30625	801.30625
Larue	G	371-372	771.31875	801.31875
Larue	G	429-430	771.68125	801.68125
Larue	G	431-432	771.69375	801.69375
Larue	G	593-594	772.70625	802.70625
Larue	G	595-596	772.71875	802.71875
Larue	G	717-718	773.48125	803.48125
Larue	G	719-720	773.49375	803.49375
Laurel	G	129-130	769.80625	799.80625
Laurel	G	131-132	769.81875	799.81875
Laurel	G	213-214	770.33125	800.33125
Laurel	G	215-216	770.34375	800.34375
Laurel	G	293-294	770.83125	800.83125
Laurel	G	295-296	770.84375	800.84375
Laurel	G	333-334	771.08125	801.08125
Laurel	G	335-336	771.09375	801.09375
Laurel	G	413-414	771.58125	801.58125
Laurel	G	415-416	771.59375	801.59375
Laurel	G	469-470	771.93125	801.93125
Laurel	G	471-472	771.94375	801.94375
Laurel	G	529-530	772.30625	802.30625
Laurel	G	531-532	772.31875	802.31875
Laurel	G	573-574	772.58125	802.58125
Laurel	G	575-576	772.59375	802.59375
Laurel	G	637-638	772.98125	802.98125
Laurel	G	639-640	772.99375	802.99375
Laurel	G	713-714	773.45625	803.45625
Laurel	G	715-716	773.46875	803.46875
Laurel	G	829-830	774.18125	804.18125
Laurel	G	831-832	774.19375	804.19375
Laurel	G	909-910	774.68125	804.68125

Laurel	G	911-912	774.69375	804.69375
Lawrence	G	89-90	769.55625	799.55625
Lawrence	G	91-92	769.56875	799.56875
Lawrence	G	377-378	771.35625	801.35625
Lawrence	G	379-380	771.36875	801.36875
Lawrence	G	421-422	771.63125	801.63125
Lawrence	G	423-424	771.64375	801.64375
Lawrence	G	505-506	772.15625	802.15625
Lawrence	G	507-508	772.16875	802.16875
Lawrence	G	677-678	773.23125	803.23125
Lawrence	G	679-680	773.24375	803.24375
Lee	G	329-330	771.05625	801.05625
Lee	G	331-332	771.06875	801.06875
Lee	G	425-426	771.65625	801.65625
Lee	G	427-428	771.66875	801.66875
Lee	G	485-486	772.03125	802.03125
Lee	G	487-488	772.04375	802.04375
Lee	G	537-538	772.35625	802.35625
Lee	G	539-540	772.36875	802.36875
Lee	G	605-606	772.78125	802.78125
Lee	G	607-608	772.79375	802.79375
Lee	G	941-942	774.88125	804.88125
Lee	G	943-944	774.89375	804.89375
Leslie	G	81-82	769.50625	799.50625
Leslie	G	83-84	769.51875	799.51875
Leslie	G	393-394	771.45625	801.45625
Leslie	G	395-396	771.46875	801.46875
Leslie	G	505-506	772.15625	802.15625
Leslie	G	507-508	772.16875	802.16875
Leslie	G	557-558	772.48125	802.48125
Leslie	G	559-560	772.49375	802.49375
Leslie	G	717-718	773.48125	803.48125
Leslie	G	719-720	773.49375	803.49375
Letcher	G	253-254	770.58125	800.58125
Letcher	G	255-256	770.59375	800.59375
Letcher	G	337-338	771.10625	801.10625
Letcher	G	339-340	771.11875	801.11875
Letcher	G	429-430	771.68125	801.68125
Letcher	G	431-432	771.69375	801.69375
Letcher	G	545-546	772.40625	802.40625
Letcher	G	547-548	772.41875	802.41875
Letcher	G	609-610	772.80625	802.80625
Letcher	G	611-612	772.81875	802.81875
Letcher	G	833-834	774.20625	804.20625
Letcher	G	835-836	774.21875	804.21875

Lewis	G	213-214	770.33125	800.33125
Lewis	G	215-216	770.34375	800.34375
Lewis	G	297-298	770.85625	800.85625
Lewis	G	299-300	770.86875	800.86875
Lewis	G	425-426	771.65625	801.65625
Lewis	G	427-428	771.66875	801.66875
Lewis	G	509-510	772.18125	802.18125
Lewis	G	511-512	772.19375	802.19375
Lewis	G	717-718	773.48125	803.48125
Lewis	G	719-720	773.49375	803.49375
Lincoln	G	133-134	769.83125	799.83125
Lincoln	G	135-136	769.84375	799.84375
Lincoln	G	177-178	770.10625	800.10625
Lincoln	G	179-180	770.11875	800.11875
Lincoln	G	217-218	770.35625	800.35625
Lincoln	G	219-220	770.36875	800.36875
Lincoln	G	417-418	771.60625	801.60625
Lincoln	G	419-420	771.61875	801.61875
Lincoln	G	473-474	771.95625	801.95625
Lincoln	G	475-476	771.96875	801.96875
Lincoln	G	621-622	772.88125	802.88125
Lincoln	G	623-624	772.89375	802.89375
Livingston	G	17-18	769.10625	799.10625
Livingston	G	19-20	769.11875	799.11875
Livingston	G	369-370	771.30625	801.30625
Livingston	G	371-372	771.31875	801.31875
Livingston	G	413-414	771.58125	801.58125
Livingston	G	415-416	771.59375	801.59375
Livingston	G	577-578	772.60625	802.60625
Livingston	G	579-580	772.61875	802.61875
Livingston	G	665-666	773.15625	803.15625
Livingston	G	667-668	773.16875	803.16875
Livingston	G	869-870	774.43125	804.43125
Livingston	G	871-872	774.44375	804.44375
Livingston	G	917-918	774.73125	804.73125
Livingston	G	919-920	774.74375	804.74375
Logan	G	121-122	769.75625	799.75625
Logan	G	123-124	769.76875	799.76875
Logan	G	177-178	770.10625	800.10625
Logan	G	179-180	770.11875	800.11875
Logan	G	285-286	770.78125	800.78125
Logan	G	287-288	770.79375	800.79375
Logan	G	341-342	771.13125	801.13125
Logan	G	343-344	771.14375	801.14375
Logan	G	421-422	771.63125	801.63125

Logan	G	423-424	771.64375	801.64375
Logan	G	485-486	772.03125	802.03125
Logan	G	487-488	772.04375	802.04375
Logan	G	577-578	772.60625	802.60625
Logan	G	579-580	772.61875	802.61875
Logan	G	909-910	774.68125	804.68125
Logan	G	911-912	774.69375	804.69375
Lyon	G	209-210	770.30625	800.30625
Lyon	G	211-212	770.31875	800.31875
Lyon	G	505-506	772.15625	802.15625
Lyon	G	507-508	772.16875	802.16875
Lyon	G	549-550	772.43125	802.43125
Lyon	G	551-552	772.44375	802.44375
Lyon	G	605-606	772.78125	802.78125
Lyon	G	607-608	772.79375	802.79375
Lyon	G	753-754	773.70625	803.70625
Lyon	G	755-756	773.71875	803.71875
Madison	G	49-50	769.30625	799.30625
Madison	G	51-52	769.31875	799.31875
Madison	G	93-94	769.58125	799.58125
Madison	G	95-96	769.59375	799.59375
Madison	G	337-338	771.10625	801.10625
Madison	G	339-340	771.11875	801.11875
Madison	G	405-406	771.53125	801.53125
Madison	G	407-408	771.54375	801.54375
Madison	G	461-462	771.88125	801.88125
Madison	G	463-464	771.89375	801.89375
Madison	G	513-514	772.20625	802.20625
Madison	G	515-516	772.21875	802.21875
Madison	G	561-562	772.50625	802.50625
Madison	G	563-564	772.51875	802.51875
Madison	G	601-602	772.75625	802.75625
Madison	G	603-604	772.76875	802.76875
Madison	G	673-674	773.20625	803.20625
Madison	G	675-676	773.21875	803.21875
Madison	G	741-742	773.63125	803.63125
Madison	G	743-744	773.64375	803.64375
Madison	G	789-790	773.93125	803.93125
Madison	G	791-792	773.94375	803.94375
Madison	G	861-862	774.38125	804.38125
Madison	G	863-864	774.39375	804.39375
Magoffin	G	389-390	771.43125	801.43125
Magoffin	G	391-392	771.44375	801.44375
Magoffin	G	469-470	771.93125	801.93125
Magoffin	G	471-472	771.94375	801.94375

Magoffin	G	541-542	772.38125	802.38125
Magoffin	G	543-544	772.39375	802.39375
Magoffin	G	621-622	772.88125	802.88125
Magoffin	G	623-624	772.89375	802.89375
Magoffin	G	905-906	774.65625	804.65625
Magoffin	G	907-908	774.66875	804.66875
Marion	G	53-54	769.33125	799.33125
Marion	G	55-56	769.34375	799.34375
Marion	G	169-170	770.05625	800.05625
Marion	G	171-172	770.06875	800.06875
Marion	G	293-294	770.83125	800.83125
Marion	G	295-296	770.84375	800.84375
Marion	G	389-390	771.43125	801.43125
Marion	G	391-392	771.44375	801.44375
Marion	G	585-586	772.65625	802.65625
Marion	G	587-588	772.66875	802.66875
Marion	G	637-638	772.98125	802.98125
Marion	G	639-640	772.99375	802.99375
Marion	G	837-838	774.23125	804.23125
Marion	G	839-840	774.24375	804.24375
Marshall	G	325-326	771.03125	801.03125
Marshall	G	327-328	771.04375	801.04375
Marshall	G	401-402	771.50625	801.50625
Marshall	G	403-404	771.51875	801.51875
Marshall	G	469-470	771.93125	801.93125
Marshall	G	471-472	771.94375	801.94375
Marshall	G	537-538	772.35625	802.35625
Marshall	G	539-540	772.36875	802.36875
Marshall	G	589-590	772.68125	802.68125
Marshall	G	591-592	772.69375	802.69375
Marshall	G	713-714	773.45625	803.45625
Marshall	G	715-716	773.46875	803.46875
Marshall	G	781-782	773.88125	803.88125
Marshall	G	783-784	773.89375	803.89375
Marshall	G	909-910	774.68125	804.68125
Marshall	G	911-912	774.69375	804.69375
Martin	G	341-342	771.13125	801.13125
Martin	G	343-344	771.14375	801.14375
Martin	G	557-558	772.48125	802.48125
Martin	G	559-560	772.49375	802.49375
Martin	G	617-618	772.85625	802.85625
Martin	G	619-620	772.86875	802.86875
Martin	G	705-706	773.40625	803.40625
Martin	G	707-708	773.41875	803.41875
Martin	G	913-914	774.70625	804.70625

Martin	G	915-916	774.71875	804.71875
Mason	G	93-94	769.58125	799.58125
Mason	G	95-96	769.59375	799.59375
Mason	G	289-290	770.80625	800.80625
Mason	G	291-292	770.81875	800.81875
Mason	G	381-382	771.38125	801.38125
Mason	G	383-384	771.39375	801.39375
Mason	G	633-634	772.95625	802.95625
Mason	G	635-636	772.96875	802.96875
Mason	G	745-746	773.65625	803.65625
Mason	G	747-748	773.66875	803.66875
Mason	G	833-834	774.20625	804.20625
Mason	G	835-836	774.21875	804.21875
Mason	G	941-942	774.88125	804.88125
Mason	G	943-944	774.89375	804.89375
McCracken	G	49-50	769.30625	799.30625
McCracken	G	51-52	769.31875	799.31875
McCracken	G	97-98	769.60625	799.60625
McCracken	G	99-100	769.61875	799.61875
McCracken	G	137-138	769.85625	799.85625
McCracken	G	139-140	769.86875	799.86875
McCracken	G	177-178	770.10625	800.10625
McCracken	G	179-180	770.11875	800.11875
McCracken	G	257-258	770.60625	800.60625
McCracken	G	259-260	770.61875	800.61875
McCracken	G	349-350	771.18125	801.18125
McCracken	G	351-352	771.19375	801.19375
McCracken	G	393-394	771.45625	801.45625
McCracken	G	395-396	771.46875	801.46875
McCracken	G	453-454	771.83125	801.83125
McCracken	G	455-456	771.84375	801.84375
McCracken	G	601-602	772.75625	802.75625
McCracken	G	603-604	772.76875	802.76875
McCracken	G	673-674	773.20625	803.20625
McCracken	G	675-676	773.21875	803.21875
McCracken	G	741-742	773.63125	803.63125
McCracken	G	743-744	773.64375	803.64375
McCracken	G	797-798	773.98125	803.98125
McCracken	G	799-800	773.99375	803.99375
McCracken	G	877-878	774.48125	804.48125
McCracken	G	879-880	774.49375	804.49375
McCracken	G	941-942	774.88125	804.88125
McCracken	G	943-944	774.89375	804.89375
McCreary	G	253-254	770.58125	800.58125
McCreary	G	255-256	770.59375	800.59375

McCreary	G	369-370	771.30625	801.30625
McCreary	G	371-372	771.31875	801.31875
McCreary	G	477-478	771.98125	801.98125
McCreary	G	479-480	771.99375	801.99375
McCreary	G	537-538	772.35625	802.35625
McCreary	G	539-540	772.36875	802.36875
McCreary	G	605-606	772.78125	802.78125
McCreary	G	607-608	772.79375	802.79375
McCreary	G	821-822	774.13125	804.13125
McCreary	G	823-824	774.14375	804.14375
McLean	G	205-206	770.28125	800.28125
McLean	G	207-208	770.29375	800.29375
McLean	G	393-394	771.45625	801.45625
McLean	G	395-396	771.46875	801.46875
McLean	G	565-566	772.53125	802.53125
McLean	G	567-568	772.54375	802.54375
McLean	G	825-826	774.15625	804.15625
McLean	G	827-828	774.16875	804.16875
McLean	G	865-866	774.40625	804.40625
McLean	G	867-868	774.41875	804.41875
Meade	G	201-202	770.25625	800.25625
Meade	G	203-204	770.26875	800.26875
Meade	G	361-362	771.25625	801.25625
Meade	G	363-364	771.26875	801.26875
Meade	G	445-446	771.78125	801.78125
Meade	G	447-448	771.79375	801.79375
Meade	G	513-514	772.20625	802.20625
Meade	G	515-516	772.21875	802.21875
Meade	G	553-554	772.45625	802.45625
Meade	G	555-556	772.46875	802.46875
Meade	G	621-622	772.88125	802.88125
Meade	G	623-624	772.89375	802.89375
Menifee	G	333-334	771.08125	801.08125
Menifee	G	335-336	771.09375	801.09375
Menifee	G	373-374	771.33125	801.33125
Menifee	G	375-376	771.34375	801.34375
Menifee	G	441-442	771.75625	801.75625
Menifee	G	443-444	771.76875	801.76875
Menifee	G	493-494	772.08125	802.08125
Menifee	G	495-496	772.09375	802.09375
Menifee	G	797-798	773.98125	803.98125
Menifee	G	799-800	773.99375	803.99375
Mercer	G	89-90	769.55625	799.55625
Mercer	G	91-92	769.56875	799.56875
Mercer	G	537-538	772.35625	802.35625

Mercer	G	539-540	772.36875	802.36875
Mercer	G	617-618	772.85625	802.85625
Mercer	G	619-620	772.86875	802.86875
Mercer	G	785-786	773.90625	803.90625
Mercer	G	787-788	773.91875	803.91875
Mercer	G	825-826	774.15625	804.15625
Mercer	G	827-828	774.16875	804.16875
Mercer	G	913-914	774.70625	804.70625
Mercer	G	915-916	774.71875	804.71875
Metcalfe	G	397-398	771.48125	801.48125
Metcalfe	G	399-400	771.49375	801.49375
Metcalfe	G	481-482	772.00625	802.00625
Metcalfe	G	483-484	772.01875	802.01875
Metcalfe	G	557-558	772.48125	802.48125
Metcalfe	G	559-560	772.49375	802.49375
Metcalfe	G	673-674	773.20625	803.20625
Metcalfe	G	675-676	773.21875	803.21875
Metcalfe	G	753-754	773.70625	803.70625
Metcalfe	G	755-756	773.71875	803.71875
Monroe	G	341-342	771.13125	801.13125
Monroe	G	343-344	771.14375	801.14375
Monroe	G	489-490	772.05625	802.05625
Monroe	G	491-492	772.06875	802.06875
Monroe	G	577-578	772.60625	802.60625
Monroe	G	579-580	772.61875	802.61875
Monroe	G	621-622	772.88125	802.88125
Monroe	G	623-624	772.89375	802.89375
Monroe	G	705-706	773.40625	803.40625
Monroe	G	707-708	773.41875	803.41875
Monroe	G	789-790	773.93125	803.93125
Monroe	G	791-792	773.94375	803.94375
Montgomery	G	209-210	770.30625	800.30625
Montgomery	G	211-212	770.31875	800.31875
Montgomery	G	293-294	770.83125	800.83125
Montgomery	G	295-296	770.84375	800.84375
Montgomery	G	465-466	771.90625	801.90625
Montgomery	G	467-468	771.91875	801.91875
Montgomery	G	589-590	772.68125	802.68125
Montgomery	G	591-592	772.69375	802.69375
Montgomery	G	713-714	773.45625	803.45625
Montgomery	G	715-716	773.46875	803.46875
Montgomery	G	901-902	774.63125	804.63125
Montgomery	G	903-904	774.64375	804.64375
Morgan	G	129-130	769.80625	799.80625
Morgan	G	131-132	769.81875	799.81875

Morgan	G	349-350	771.18125	801.18125
Morgan	G	351-352	771.19375	801.19375
Morgan	G	521-522	772.25625	802.25625
Morgan	G	523-524	772.26875	802.26875
Morgan	G	569-570	772.55625	802.55625
Morgan	G	571-572	772.56875	802.56875
Morgan	G	613-614	772.83125	802.83125
Morgan	G	615-616	772.84375	802.84375
Morgan	G	917-918	774.73125	804.73125
Morgan	G	919-920	774.74375	804.74375
Muhlenberg	G	41-42	769.25625	799.25625
Muhlenberg	G	43-44	769.26875	799.26875
Muhlenberg	G	165-166	770.03125	800.03125
Muhlenberg	G	167-168	770.04375	800.04375
Muhlenberg	G	325-326	771.03125	801.03125
Muhlenberg	G	327-328	771.04375	801.04375
Muhlenberg	G	381-382	771.38125	801.38125
Muhlenberg	G	383-384	771.39375	801.39375
Muhlenberg	G	465-466	771.90625	801.90625
Muhlenberg	G	467-468	771.91875	801.91875
Muhlenberg	G	537-538	772.35625	802.35625
Muhlenberg	G	539-540	772.36875	802.36875
Muhlenberg	G	661-662	773.13125	803.13125
Muhlenberg	G	663-664	773.14375	803.14375
Muhlenberg	G	717-718	773.48125	803.48125
Muhlenberg	G	719-720	773.49375	803.49375
Nelson	G	161-162	770.00625	800.00625
Nelson	G	163-164	770.01875	800.01875
Nelson	G	329-330	771.05625	801.05625
Nelson	G	331-332	771.06875	801.06875
Nelson	G	377-378	771.35625	801.35625
Nelson	G	379-380	771.36875	801.36875
Nelson	G	517-518	772.23125	802.23125
Nelson	G	519-520	772.24375	802.24375
Nelson	G	677-678	773.23125	803.23125
Nelson	G	679-680	773.24375	803.24375
Nelson	G	757-758	773.73125	803.73125
Nelson	G	759-760	773.74375	803.74375
Nelson	G	829-830	774.18125	804.18125
Nelson	G	831-832	774.19375	804.19375
Nicholas	G	217-218	770.35625	800.35625
Nicholas	G	219-220	770.36875	800.36875
Nicholas	G	421-422	771.63125	801.63125
Nicholas	G	423-424	771.64375	801.64375
Nicholas	G	621-622	772.88125	802.88125

Nicholas	G	623-624	772.89375	802.89375
Nicholas	G	793-794	773.95625	803.95625
Nicholas	G	795-796	773.96875	803.96875
Nicholas	G	913-914	774.70625	804.70625
Nicholas	G	915-916	774.71875	804.71875
Ohio	G	49-50	769.30625	799.30625
Ohio	G	51-52	769.31875	799.31875
Ohio	G	245-246	770.53125	800.53125
Ohio	G	247-248	770.54375	800.54375
Ohio	G	369-370	771.30625	801.30625
Ohio	G	371-372	771.31875	801.31875
Ohio	G	457-458	771.85625	801.85625
Ohio	G	459-460	771.86875	801.86875
Ohio	G	497-498	772.10625	802.10625
Ohio	G	499-500	772.11875	802.11875
Ohio	G	557-558	772.48125	802.48125
Ohio	G	559-560	772.49375	802.49375
Ohio	G	605-606	772.78125	802.78125
Ohio	G	607-608	772.79375	802.79375
Oldham	G	169-170	770.05625	800.05625
Oldham	G	171-172	770.06875	800.06875
Oldham	G	349-350	771.18125	801.18125
Oldham	G	351-352	771.19375	801.19375
Oldham	G	389-390	771.43125	801.43125
Oldham	G	391-392	771.44375	801.44375
Oldham	G	437-438	771.73125	801.73125
Oldham	G	439-440	771.74375	801.74375
Oldham	G	589-590	772.68125	802.68125
Oldham	G	591-592	772.69375	802.69375
Oldham	G	665-666	773.15625	803.15625
Oldham	G	667-668	773.16875	803.16875
Oldham	G	781-782	773.88125	803.88125
Oldham	G	783-784	773.89375	803.89375
Owen	G	165-166	770.03125	800.03125
Owen	G	167-168	770.04375	800.04375
Owen	G	337-338	771.10625	801.10625
Owen	G	339-340	771.11875	801.11875
Owen	G	401-402	771.50625	801.50625
Owen	G	403-404	771.51875	801.51875
Owen	G	585-586	772.65625	802.65625
Owen	G	587-588	772.66875	802.66875
Owen	G	865-866	774.40625	804.40625
Owen	G	867-868	774.41875	804.41875
Owsley	G	341-342	771.13125	801.13125
Owsley	G	343-344	771.14375	801.14375

Owsley	G	445-446	771.78125	801.78125
Owsley	G	447-448	771.79375	801.79375
Owsley	G	565-566	772.53125	802.53125
Owsley	G	567-568	772.54375	802.54375
Owsley	G	617-618	772.85625	802.85625
Owsley	G	619-620	772.86875	802.86875
Owsley	G	785-786	773.90625	803.90625
Owsley	G	787-788	773.91875	803.91875
Owsley	G	913-914	774.70625	804.70625
Owsley	G	915-916	774.71875	804.71875
Pendleton	G	241-242	770.50625	800.50625
Pendleton	G	243-244	770.51875	800.51875
Pendleton	G	473-474	771.95625	801.95625
Pendleton	G	475-476	771.96875	801.96875
Pendleton	G	525-526	772.28125	802.28125
Pendleton	G	527-528	772.29375	802.29375
Pendleton	G	617-618	772.85625	802.85625
Pendleton	G	619-620	772.86875	802.86875
Pendleton	G	789-790	773.93125	803.93125
Pendleton	G	791-792	773.94375	803.94375
Perry	G	133-134	769.83125	799.83125
Perry	G	135-136	769.84375	799.84375
Perry	G	281-282	770.75625	800.75625
Perry	G	283-284	770.76875	800.76875
Perry	G	321-322	771.00625	801.00625
Perry	G	323-324	771.01875	801.01875
Perry	G	481-482	772.00625	802.00625
Perry	G	483-484	772.01875	802.01875
Perry	G	577-578	772.60625	802.60625
Perry	G	579-580	772.61875	802.61875
Perry	G	629-630	772.93125	802.93125
Perry	G	631-632	772.94375	802.94375
Perry	G	757-758	773.73125	803.73125
Perry	G	759-760	773.74375	803.74375
Perry	G	821-822	774.13125	804.13125
Perry	G	823-824	774.14375	804.14375
Perry	G	865-866	774.40625	804.40625
Perry	G	867-868	774.41875	804.41875
Pike	G	241-242	770.50625	800.50625
Pike	G	243-244	770.51875	800.51875
Pike	G	329-330	771.05625	801.05625
Pike	G	331-332	771.06875	801.06875
Pike	G	373-374	771.33125	801.33125
Pike	G	375-376	771.34375	801.34375
Pike	G	473-474	771.95625	801.95625

Pike	G	475-476	771.96875	801.96875
Pike	G	525-526	772.28125	802.28125
Pike	G	527-528	772.29375	802.29375
Pike	G	573-574	772.58125	802.58125
Pike	G	575-576	772.59375	802.59375
Pike	G	625-626	772.90625	802.90625
Pike	G	627-628	772.91875	802.91875
Pike	G	749-750	773.68125	803.68125
Pike	G	751-752	773.69375	803.69375
Pike	G	797-798	773.98125	803.98125
Pike	G	799-800	773.99375	803.99375
Pike	G	901-902	774.63125	804.63125
Pike	G	903-904	774.64375	804.64375
Pike	G	941-942	774.88125	804.88125
Pike	G	943-944	774.89375	804.89375
Powell	G	169-170	770.05625	800.05625
Powell	G	171-172	770.06875	800.06875
Powell	G	285-286	770.78125	800.78125
Powell	G	287-288	770.79375	800.79375
Powell	G	353-354	771.20625	801.20625
Powell	G	355-356	771.21875	801.21875
Powell	G	477-478	771.98125	801.98125
Powell	G	479-480	771.99375	801.99375
Powell	G	749-750	773.68125	803.68125
Powell	G	751-752	773.69375	803.69375
Pulaski	G	45-46	769.28125	799.28125
Pulaski	G	47-48	769.29375	799.29375
Pulaski	G	121-122	769.75625	799.75625
Pulaski	G	123-124	769.76875	799.76875
Pulaski	G	161-162	770.00625	800.00625
Pulaski	G	163-164	770.01875	800.01875
Pulaski	G	245-246	770.53125	800.53125
Pulaski	G	247-248	770.54375	800.54375
Pulaski	G	345-346	771.15625	801.15625
Pulaski	G	347-348	771.16875	801.16875
Pulaski	G	401-402	771.50625	801.50625
Pulaski	G	403-404	771.51875	801.51875
Pulaski	G	453-454	771.83125	801.83125
Pulaski	G	455-456	771.84375	801.84375
Pulaski	G	493-494	772.08125	802.08125
Pulaski	G	495-496	772.09375	802.09375
Pulaski	G	581-582	772.63125	802.63125
Pulaski	G	583-584	772.64375	802.64375
Pulaski	G	629-630	772.93125	802.93125
Pulaski	G	631-632	772.94375	802.94375

Pulaski	G	701-702	773.38125	803.38125
Pulaski	G	703-704	773.39375	803.39375
Pulaski	G	745-746	773.65625	803.65625
Pulaski	G	747-748	773.66875	803.66875
Pulaski	G	877-878	774.48125	804.48125
Pulaski	G	879-880	774.49375	804.49375
Pulaski	G	917-918	774.73125	804.73125
Pulaski	G	919-920	774.74375	804.74375
Robertson	G	85-86	769.53125	799.53125
Robertson	G	87-88	769.54375	799.54375
Robertson	G	397-398	771.48125	801.48125
Robertson	G	399-400	771.49375	801.49375
Robertson	G	517-518	772.23125	802.23125
Robertson	G	519-520	772.24375	802.24375
Robertson	G	565-566	772.53125	802.53125
Robertson	G	567-568	772.54375	802.54375
Robertson	G	673-674	773.20625	803.20625
Robertson	G	675-676	773.21875	803.21875
Robertson	G	905-906	774.65625	804.65625
Robertson	G	907-908	774.66875	804.66875
Rockcastle	G	85-86	769.53125	799.53125
Rockcastle	G	87-88	769.54375	799.54375
Rockcastle	G	357-358	771.23125	801.23125
Rockcastle	G	359-360	771.24375	801.24375
Rockcastle	G	545-546	772.40625	802.40625
Rockcastle	G	547-548	772.41875	802.41875
Rockcastle	G	609-610	772.80625	802.80625
Rockcastle	G	611-612	772.81875	802.81875
Rockcastle	G	753-754	773.70625	803.70625
Rockcastle	G	755-756	773.71875	803.71875
Rowan	G	177-178	770.10625	800.10625
Rowan	G	179-180	770.11875	800.11875
Rowan	G	341-342	771.13125	801.13125
Rowan	G	343-344	771.14375	801.14375
Rowan	G	393-394	771.45625	801.45625
Rowan	G	395-396	771.46875	801.46875
Rowan	G	557-558	772.48125	802.48125
Rowan	G	559-560	772.49375	802.49375
Rowan	G	785-786	773.90625	803.90625
Rowan	G	787-788	773.91875	803.91875
Rowan	G	837-838	774.23125	804.23125
Rowan	G	839-840	774.24375	804.24375
Rowan	G	945-946	774.90625	804.90625
Rowan	G	947-948	774.91875	804.91875
Russell	G	13-14	769.08125	799.08125

Russell	G	15-16	769.09375	799.09375
Russell	G	337-338	771.10625	801.10625
Russell	G	339-340	771.11875	801.11875
Russell	G	393-394	771.45625	801.45625
Russell	G	395-396	771.46875	801.46875
Russell	G	541-542	772.38125	802.38125
Russell	G	543-544	772.39375	802.39375
Russell	G	661-662	773.13125	803.13125
Russell	G	663-664	773.14375	803.14375
Russell	G	709-710	773.43125	803.43125
Russell	G	711-712	773.44375	803.44375
Russell	G	901-902	774.63125	804.63125
Russell	G	903-904	774.64375	804.64375
Scott	G	357-358	771.23125	801.23125
Scott	G	359-360	771.24375	801.24375
Scott	G	425-426	771.65625	801.65625
Scott	G	427-428	771.66875	801.66875
Scott	G	541-542	772.38125	802.38125
Scott	G	543-544	772.39375	802.39375
Scott	G	605-606	772.78125	802.78125
Scott	G	607-608	772.79375	802.79375
Scott	G	753-754	773.70625	803.70625
Scott	G	755-756	773.71875	803.71875
Scott	G	837-838	774.23125	804.23125
Scott	G	839-840	774.24375	804.24375
Scott	G	917-918	774.73125	804.73125
Scott	G	919-920	774.74375	804.74375
Shelby	G	13-14	769.08125	799.08125
Shelby	G	15-16	769.09375	799.09375
Shelby	G	285-286	770.78125	800.78125
Shelby	G	287-288	770.79375	800.79375
Shelby	G	477-478	771.98125	801.98125
Shelby	G	479-480	771.99375	801.99375
Shelby	G	545-546	772.40625	802.40625
Shelby	G	547-548	772.41875	802.41875
Shelby	G	597-598	772.73125	802.73125
Shelby	G	599-600	772.74375	802.74375
Shelby	G	701-702	773.38125	803.38125
Shelby	G	703-704	773.39375	803.39375
Shelby	G	901-902	774.63125	804.63125
Shelby	G	903-904	774.64375	804.64375
Simpson	G	385-386	771.40625	801.40625
Simpson	G	387-388	771.41875	801.41875
Simpson	G	433-434	771.70625	801.70625
Simpson	G	435-436	771.71875	801.71875

Simpson	G	493-494	772.08125	802.08125
Simpson	G	495-496	772.09375	802.09375
Simpson	G	533-534	772.33125	802.33125
Simpson	G	535-536	772.34375	802.34375
Simpson	G	873-874	774.45625	804.45625
Simpson	G	875-876	774.46875	804.46875
Spencer	G	245-246	770.53125	800.53125
Spencer	G	247-248	770.54375	800.54375
Spencer	G	341-342	771.13125	801.13125
Spencer	G	343-344	771.14375	801.14375
Spencer	G	397-398	771.48125	801.48125
Spencer	G	399-400	771.49375	801.49375
Spencer	G	441-442	771.75625	801.75625
Spencer	G	443-444	771.76875	801.76875
Spencer	G	509-510	772.18125	802.18125
Spencer	G	511-512	772.19375	802.19375
Taylor	G	17-18	769.10625	799.10625
Taylor	G	19-20	769.11875	799.11875
Taylor	G	129-130	769.80625	799.80625
Taylor	G	131-132	769.81875	799.81875
Taylor	G	457-458	771.85625	801.85625
Taylor	G	459-460	771.86875	801.86875
Taylor	G	497-498	772.10625	802.10625
Taylor	G	499-500	772.11875	802.11875
Taylor	G	561-562	772.50625	802.50625
Taylor	G	563-564	772.51875	802.51875
Taylor	G	781-782	773.88125	803.88125
Taylor	G	783-784	773.89375	803.89375
Taylor	G	821-822	774.13125	804.13125
Taylor	G	823-824	774.14375	804.14375
Taylor	G	869-870	774.43125	804.43125
Taylor	G	871-872	774.44375	804.44375
Todd	G	429-430	771.68125	801.68125
Todd	G	431-432	771.69375	801.69375
Todd	G	473-474	771.95625	801.95625
Todd	G	475-476	771.96875	801.96875
Todd	G	545-546	772.40625	802.40625
Todd	G	547-548	772.41875	802.41875
Todd	G	589-590	772.68125	802.68125
Todd	G	591-592	772.69375	802.69375
Todd	G	629-630	772.93125	802.93125
Todd	G	631-632	772.94375	802.94375
Trigg	G	125-126	769.78125	799.78125
Trigg	G	127-128	769.79375	799.79375
Trigg	G	365-366	771.28125	801.28125

Trigg	G	367-368	771.29375	801.29375
Trigg	G	417-418	771.60625	801.60625
Trigg	G	419-420	771.61875	801.61875
Trigg	G	477-478	771.98125	801.98125
Trigg	G	479-480	771.99375	801.99375
Trigg	G	901-902	774.63125	804.63125
Trigg	G	903-904	774.64375	804.64375
Trimble	G	133-134	769.83125	799.83125
Trimble	G	135-136	769.84375	799.84375
Trimble	G	325-326	771.03125	801.03125
Trimble	G	327-328	771.04375	801.04375
Trimble	G	429-430	771.68125	801.68125
Trimble	G	431-432	771.69375	801.69375
Trimble	G	493-494	772.08125	802.08125
Trimble	G	495-496	772.09375	802.09375
Trimble	G	549-550	772.43125	802.43125
Trimble	G	551-552	772.44375	802.44375
Trimble	G	601-602	772.75625	802.75625
Trimble	G	603-604	772.76875	802.76875
Union	G	245-246	770.53125	800.53125
Union	G	247-248	770.54375	800.54375
Union	G	285-286	770.78125	800.78125
Union	G	287-288	770.79375	800.79375
Union	G	397-398	771.48125	801.48125
Union	G	399-400	771.49375	801.49375
Union	G	521-522	772.25625	802.25625
Union	G	523-524	772.26875	802.26875
Union	G	569-570	772.55625	802.55625
Union	G	571-572	772.56875	802.56875
Union	G	669-670	773.18125	803.18125
Union	G	671-672	773.19375	803.19375
Union	G	829-830	774.18125	804.18125
Union	G	831-832	774.19375	804.19375
Warren	G	53-54	769.33125	799.33125
Warren	G	55-56	769.34375	799.34375
Warren	G	129-130	769.80625	799.80625
Warren	G	131-132	769.81875	799.81875
Warren	G	209-210	770.30625	800.30625
Warren	G	211-212	770.31875	800.31875
Warren	G	321-322	771.00625	801.00625
Warren	G	323-324	771.01875	801.01875
Warren	G	373-374	771.33125	801.33125
Warren	G	375-376	771.34375	801.34375
Warren	G	413-414	771.58125	801.58125
Warren	G	415-416	771.59375	801.59375

Warren	G	469-470	771.93125	801.93125
Warren	G	471-472	771.94375	801.94375
Warren	G	513-514	772.20625	802.20625
Warren	G	515-516	772.21875	802.21875
Warren	G	561-562	772.50625	802.50625
Warren	G	563-564	772.51875	802.51875
Warren	G	617-618	772.85625	802.85625
Warren	G	619-620	772.86875	802.86875
Warren	G	669-670	773.18125	803.18125
Warren	G	671-672	773.19375	803.19375
Warren	G	713-714	773.45625	803.45625
Warren	G	715-716	773.46875	803.46875
Warren	G	757-758	773.73125	803.73125
Warren	G	759-760	773.74375	803.74375
Warren	G	797-798	773.98125	803.98125
Warren	G	799-800	773.99375	803.99375
Warren	G	861-862	774.38125	804.38125
Warren	G	863-864	774.39375	804.39375
Warren	G	901-902	774.63125	804.63125
Warren	G	903-904	774.64375	804.64375
Washington	G	281-282	770.75625	800.75625
Washington	G	283-284	770.76875	800.76875
Washington	G	409-410	771.55625	801.55625
Washington	G	411-412	771.56875	801.56875
Washington	G	557-558	772.48125	802.48125
Washington	G	559-560	772.49375	802.49375
Washington	G	749-750	773.68125	803.68125
Washington	G	751-752	773.69375	803.69375
Washington	G	905-906	774.65625	804.65625
Washington	G	907-908	774.66875	804.66875
Wayne	G	81-82	769.50625	799.50625
Wayne	G	83-84	769.51875	799.51875
Wayne	G	173-174	770.08125	800.08125
Wayne	G	175-176	770.09375	800.09375
Wayne	G	361-362	771.25625	801.25625
Wayne	G	363-364	771.26875	801.26875
Wayne	G	513-514	772.20625	802.20625
Wayne	G	515-516	772.21875	802.21875
Wayne	G	597-598	772.73125	802.73125
Wayne	G	599-600	772.74375	802.74375
Wayne	G	677-678	773.23125	803.23125
Wayne	G	679-680	773.24375	803.24375
Wayne	G	717-718	773.48125	803.48125
Wayne	G	719-720	773.49375	803.49375
Webster	G	53-54	769.33125	799.33125

Webster	G	55-56	769.34375	799.34375
Webster	G	253-254	770.58125	800.58125
Webster	G	255-256	770.59375	800.59375
Webster	G	337-338	771.10625	801.10625
Webster	G	339-340	771.11875	801.11875
Webster	G	445-446	771.78125	801.78125
Webster	G	447-448	771.79375	801.79375
Webster	G	597-598	772.73125	802.73125
Webster	G	599-600	772.74375	802.74375
Webster	G	913-914	774.70625	804.70625
Webster	G	915-916	774.71875	804.71875
Whitley	G	17-18	769.10625	799.10625
Whitley	G	19-20	769.11875	799.11875
Whitley	G	281-282	770.75625	800.75625
Whitley	G	283-284	770.76875	800.76875
Whitley	G	389-390	771.43125	801.43125
Whitley	G	391-392	771.44375	801.44375
Whitley	G	433-434	771.70625	801.70625
Whitley	G	435-436	771.71875	801.71875
Whitley	G	501-502	772.13125	802.13125
Whitley	G	503-504	772.14375	802.14375
Whitley	G	549-550	772.43125	802.43125
Whitley	G	551-552	772.44375	802.44375
Whitley	G	669-670	773.18125	803.18125
Whitley	G	671-672	773.19375	803.19375
Whitley	G	781-782	773.88125	803.88125
Whitley	G	783-784	773.89375	803.89375
Whitley	G	837-838	774.23125	804.23125
Whitley	G	839-840	774.24375	804.24375
Wolfe	G	361-362	771.25625	801.25625
Wolfe	G	363-364	771.26875	801.26875
Wolfe	G	449-450	771.80625	801.80625
Wolfe	G	451-452	771.81875	801.81875
Wolfe	G	501-502	772.13125	802.13125
Wolfe	G	503-504	772.14375	802.14375
Wolfe	G	597-598	772.73125	802.73125
Wolfe	G	599-600	772.74375	802.74375
Wolfe	G	701-702	773.38125	803.38125
Wolfe	G	703-704	773.39375	803.39375

Woodford	G	97-98	769.60625	799.60625
Woodford	G	99-100	769.61875	799.61875
Woodford	G	289-290	770.80625	800.80625
Woodford	G	291-292	770.81875	800.81875
Woodford	G	333-334	771.08125	801.08125
Woodford	G	335-336	771.09375	801.09375
Woodford	G	481-482	772.00625	802.00625
Woodford	G	483-484	772.01875	802.01875
Woodford	G	581-582	772.63125	802.63125
Woodford	G	583-584	772.64375	802.64375
Woodford	G	745-746	773.65625	803.65625
Woodford	G	747-748	773.66875	803.66875

14.1 KENTUCKY GENERAL USE 700MHZ 12.5MHz VOICE CHANNELS SORTED BY CHANNEL

	Class	Channel	Base Frequency	Mobile Frequency
Allen	G	13-14	769.08125	799.08125
Bath	G	13-14	769.08125	799.08125
Calloway	G	13-14	769.08125	799.08125
Daviess	G	13-14	769.08125	799.08125
Harlan	G	13-14	769.08125	799.08125
Russell	G	13-14	769.08125	799.08125
Shelby	G	13-14	769.08125	799.08125
Allen	G	15-16	769.09375	799.09375
Bath	G	15-16	769.09375	799.09375
Calloway	G	15-16	769.09375	799.09375
Daviess	G	15-16	769.09375	799.09375
Harlan	G	15-16	769.09375	799.09375
Russell	G	15-16	769.09375	799.09375
Shelby	G	15-16	769.09375	799.09375
Breathitt	G	17-18	769.10625	799.10625
Fayette	G	17-18	769.10625	799.10625
Gallatin	G	17-18	769.10625	799.10625
Livingston	G	17-18	769.10625	799.10625
Taylor	G	17-18	769.10625	799.10625
Whitley	G	17-18	769.10625	799.10625
Breathitt	G	19-20	769.11875	799.11875
Fayette	G	19-20	769.11875	799.11875
Gallatin	G	19-20	769.11875	799.11875
Livingston	G	19-20	769.11875	799.11875
Taylor	G	19-20	769.11875	799.11875
Whitley	G	19-20	769.11875	799.11875
Anderson	G	41-42	769.25625	799.25625
Barren	G	41-42	769.25625	799.25625
Bracken	G	41-42	769.25625	799.25625
Carlisle	G	41-42	769.25625	799.25625
Estill	G	41-42	769.25625	799.25625
Floyd	G	41-42	769.25625	799.25625
Greenup	G	41-42	769.25625	799.25625
Muhlenberg	G	41-42	769.25625	799.25625
Anderson	G	43-44	769.26875	799.26875
Barren	G	43-44	769.26875	799.26875
Bracken	G	43-44	769.26875	799.26875
Carlisle	G	43-44	769.26875	799.26875
Estill	G	43-44	769.26875	799.26875
Floyd	G	43-44	769.26875	799.26875
Greenup	G	43-44	769.26875	799.26875

Muhlenberg	G	43-44	769.26875	799.26875
Bourbon	G	45-46	769.28125	799.28125
Henderson	G	45-46	769.28125	799.28125
Jefferson	G	45-46	769.28125	799.28125
Pulaski	G	45-46	769.28125	799.28125
Bourbon	G	47-48	769.29375	799.29375
Henderson	G	47-48	769.29375	799.29375
Jefferson	G	47-48	769.29375	799.29375
Pulaski	G	47-48	769.29375	799.29375
Carter	G	49-50	769.30625	799.30625
Clinton	G	49-50	769.30625	799.30625
Kenton	G	49-50	769.30625	799.30625
Knott	G	49-50	769.30625	799.30625
Madison	G	49-50	769.30625	799.30625
McCracken	G	49-50	769.30625	799.30625
Ohio	G	49-50	769.30625	799.30625
Carter	G	51-52	769.31875	799.31875
Clinton	G	51-52	769.31875	799.31875
Kenton	G	51-52	769.31875	799.31875
Knott	G	51-52	769.31875	799.31875
Madison	G	51-52	769.31875	799.31875
McCracken	G	51-52	769.31875	799.31875
Ohio	G	51-52	769.31875	799.31875
Harrison	G	53-54	769.33125	799.33125
Marion	G	53-54	769.33125	799.33125
Warren	G	53-54	769.33125	799.33125
Webster	G	53-54	769.33125	799.33125
Harrison	G	55-56	769.34375	799.34375
Marion	G	55-56	769.34375	799.34375
Warren	G	55-56	769.34375	799.34375
Webster	G	55-56	769.34375	799.34375
Ballard	G	57-58	769.35625	799.35625
Christian	G	57-58	769.35625	799.35625
Cumberland	G	57-58	769.35625	799.35625
Fleming	G	57-58	769.35625	799.35625
Franklin	G	57-58	769.35625	799.35625
Hardin	G	57-58	769.35625	799.35625
Jackson	G	57-58	769.35625	799.35625
Ballard	G	59-60	769.36875	799.36875
Christian	G	59-60	769.36875	799.36875
Cumberland	G	59-60	769.36875	799.36875
Fleming	G	59-60	769.36875	799.36875
Franklin	G	59-60	769.36875	799.36875
Hardin	G	59-60	769.36875	799.36875
Jackson	G	59-60	769.36875	799.36875

Carlisle	G	81-82	769.50625	799.50625
Fayette	G	81-82	769.50625	799.50625
Hart	G	81-82	769.50625	799.50625
Hopkins	G	81-82	769.50625	799.50625
Leslie	G	81-82	769.50625	799.50625
Wayne	G	81-82	769.50625	799.50625
Carlisle	G	83-84	769.51875	799.51875
Fayette	G	83-84	769.51875	799.51875
Hart	G	83-84	769.51875	799.51875
Hopkins	G	83-84	769.51875	799.51875
Leslie	G	83-84	769.51875	799.51875
Wayne	G	83-84	769.51875	799.51875
Allen	G	85-86	769.53125	799.53125
Floyd	G	85-86	769.53125	799.53125
Henderson	G	85-86	769.53125	799.53125
Jefferson	G	85-86	769.53125	799.53125
Robertson	G	85-86	769.53125	799.53125
Rockcastle	G	85-86	769.53125	799.53125
Allen	G	87-88	769.54375	799.54375
Floyd	G	87-88	769.54375	799.54375
Henderson	G	87-88	769.54375	799.54375
Jefferson	G	87-88	769.54375	799.54375
Robertson	G	87-88	769.54375	799.54375
Rockcastle	G	87-88	769.54375	799.54375
Boone	G	89-90	769.55625	799.55625
Clay	G	89-90	769.55625	799.55625
Crittenden	G	89-90	769.55625	799.55625
Grayson	G	89-90	769.55625	799.55625
Lawrence	G	89-90	769.55625	799.55625
Mercer	G	89-90	769.55625	799.55625
Boone	G	91-92	769.56875	799.56875
Clay	G	91-92	769.56875	799.56875
Crittenden	G	91-92	769.56875	799.56875
Grayson	G	91-92	769.56875	799.56875
Lawrence	G	91-92	769.56875	799.56875
Mercer	G	91-92	769.56875	799.56875
Barren	G	93-94	769.58125	799.58125
Bullitt	G	93-94	769.58125	799.58125
Daviess	G	93-94	769.58125	799.58125
Madison	G	93-94	769.58125	799.58125
Mason	G	93-94	769.58125	799.58125
Barren	G	95-96	769.59375	799.59375
Bullitt	G	95-96	769.59375	799.59375
Daviess	G	95-96	769.59375	799.59375
Madison	G	95-96	769.59375	799.59375

Mason	G	95-96	769.59375	799.59375
Breathitt	G	97-98	769.60625	799.60625
Christian	G	97-98	769.60625	799.60625
Clinton	G	97-98	769.60625	799.60625
McCracken	G	97-98	769.60625	799.60625
Woodford	G	97-98	769.60625	799.60625
Breathitt	G	99-100	769.61875	799.61875
Christian	G	99-100	769.61875	799.61875
Clinton	G	99-100	769.61875	799.61875
McCracken	G	99-100	769.61875	799.61875
Woodford	G	99-100	769.61875	799.61875
Anderson	G	121-122	769.75625	799.75625
Carter	G	121-122	769.75625	799.75625
Graves	G	121-122	769.75625	799.75625
Logan	G	121-122	769.75625	799.75625
Pulaski	G	121-122	769.75625	799.75625
Anderson	G	123-124	769.76875	799.76875
Carter	G	123-124	769.76875	799.76875
Graves	G	123-124	769.76875	799.76875
Logan	G	123-124	769.76875	799.76875
Pulaski	G	123-124	769.76875	799.76875
Cumberland	G	125-126	769.78125	799.78125
Estill	G	125-126	769.78125	799.78125
Grant	G	125-126	769.78125	799.78125
Hardin	G	125-126	769.78125	799.78125
Trigg	G	125-126	769.78125	799.78125
Cumberland	G	127-128	769.79375	799.79375
Estill	G	127-128	769.79375	799.79375
Grant	G	127-128	769.79375	799.79375
Hardin	G	127-128	769.79375	799.79375
Trigg	G	127-128	769.79375	799.79375
Fayette	G	129-130	769.80625	799.80625
Laurel	G	129-130	769.80625	799.80625
Morgan	G	129-130	769.80625	799.80625
Taylor	G	129-130	769.80625	799.80625
Warren	G	129-130	769.80625	799.80625
Fayette	G	131-132	769.81875	799.81875
Laurel	G	131-132	769.81875	799.81875
Morgan	G	131-132	769.81875	799.81875
Taylor	G	131-132	769.81875	799.81875
Warren	G	131-132	769.81875	799.81875
Breckinridge	G	133-134	769.83125	799.83125
Fleming	G	133-134	769.83125	799.83125
Hopkins	G	133-134	769.83125	799.83125
Lincoln	G	133-134	769.83125	799.83125

Perry	G	133-134	769.83125	799.83125
Trimble	G	133-134	769.83125	799.83125
Breckinridge	G	135-136	769.84375	799.84375
Fleming	G	135-136	769.84375	799.84375
Hopkins	G	135-136	769.84375	799.84375
Lincoln	G	135-136	769.84375	799.84375
Perry	G	135-136	769.84375	799.84375
Trimble	G	135-136	769.84375	799.84375
Barren	G	137-138	769.85625	799.85625
Henderson	G	137-138	769.85625	799.85625
Jackson	G	137-138	769.85625	799.85625
Jefferson	G	137-138	769.85625	799.85625
McCracken	G	137-138	769.85625	799.85625
Barren	G	139-140	769.86875	799.86875
Henderson	G	139-140	769.86875	799.86875
Jackson	G	139-140	769.86875	799.86875
Jefferson	G	139-140	769.86875	799.86875
McCracken	G	139-140	769.86875	799.86875
Boone	G	161-162	770.00625	800.00625
Clark	G	161-162	770.00625	800.00625
Johnson	G	161-162	770.00625	800.00625
Nelson	G	161-162	770.00625	800.00625
Pulaski	G	161-162	770.00625	800.00625
Boone	G	163-164	770.01875	800.01875
Clark	G	163-164	770.01875	800.01875
Johnson	G	163-164	770.01875	800.01875
Nelson	G	163-164	770.01875	800.01875
Pulaski	G	163-164	770.01875	800.01875
Adair	G	165-166	770.03125	800.03125
Calloway	G	165-166	770.03125	800.03125
Clay	G	165-166	770.03125	800.03125
Muhlenberg	G	165-166	770.03125	800.03125
Owen	G	165-166	770.03125	800.03125
Adair	G	167-168	770.04375	800.04375
Calloway	G	167-168	770.04375	800.04375
Clay	G	167-168	770.04375	800.04375
Muhlenberg	G	167-168	770.04375	800.04375
Owen	G	167-168	770.04375	800.04375
Campbell	G	169-170	770.05625	800.05625
Daviess	G	169-170	770.05625	800.05625
Floyd	G	169-170	770.05625	800.05625
Marion	G	169-170	770.05625	800.05625
Oldham	G	169-170	770.05625	800.05625
Powell	G	169-170	770.05625	800.05625
Campbell	G	171-172	770.06875	800.06875

Daviess	G	171-172	770.06875	800.06875
Floyd	G	171-172	770.06875	800.06875
Marion	G	171-172	770.06875	800.06875
Oldham	G	171-172	770.06875	800.06875
Powell	G	171-172	770.06875	800.06875
Bullitt	G	173-174	770.08125	800.08125
Christian	G	173-174	770.08125	800.08125
Edmonson	G	173-174	770.08125	800.08125
Fayette	G	173-174	770.08125	800.08125
Greenup	G	173-174	770.08125	800.08125
Wayne	G	173-174	770.08125	800.08125
Bullitt	G	175-176	770.09375	800.09375
Christian	G	175-176	770.09375	800.09375
Edmonson	G	175-176	770.09375	800.09375
Fayette	G	175-176	770.09375	800.09375
Greenup	G	175-176	770.09375	800.09375
Wayne	G	175-176	770.09375	800.09375
Bell	G	177-178	770.10625	800.10625
Henderson	G	177-178	770.10625	800.10625
Lincoln	G	177-178	770.10625	800.10625
Logan	G	177-178	770.10625	800.10625
McCracken	G	177-178	770.10625	800.10625
Rowan	G	177-178	770.10625	800.10625
Bell	G	179-180	770.11875	800.11875
Henderson	G	179-180	770.11875	800.11875
Lincoln	G	179-180	770.11875	800.11875
Logan	G	179-180	770.11875	800.11875
McCracken	G	179-180	770.11875	800.11875
Rowan	G	179-180	770.11875	800.11875
Anderson	G	201-202	770.25625	800.25625
Caldwell	G	201-202	770.25625	800.25625
Estill	G	201-202	770.25625	800.25625
Kenton	G	201-202	770.25625	800.25625
Meade	G	201-202	770.25625	800.25625
Anderson	G	203-204	770.26875	800.26875
Caldwell	G	203-204	770.26875	800.26875
Estill	G	203-204	770.26875	800.26875
Kenton	G	203-204	770.26875	800.26875
Meade	G	203-204	770.26875	800.26875
Garrard	G	205-206	770.28125	800.28125
Graves	G	205-206	770.28125	800.28125
Green	G	205-206	770.28125	800.28125
Henry	G	205-206	770.28125	800.28125
Johnson	G	205-206	770.28125	800.28125
Knox	G	205-206	770.28125	800.28125

McLean	G	205-206	770.28125	800.28125
Garrard	G	207-208	770.29375	800.29375
Graves	G	207-208	770.29375	800.29375
Green	G	207-208	770.29375	800.29375
Henry	G	207-208	770.29375	800.29375
Johnson	G	207-208	770.29375	800.29375
Knox	G	207-208	770.29375	800.29375
McLean	G	207-208	770.29375	800.29375
Casey	G	209-210	770.30625	800.30625
Jefferson	G	209-210	770.30625	800.30625
Lyon	G	209-210	770.30625	800.30625
Montgomery	G	209-210	770.30625	800.30625
Warren	G	209-210	770.30625	800.30625
Casey	G	211-212	770.31875	800.31875
Jefferson	G	211-212	770.31875	800.31875
Lyon	G	211-212	770.31875	800.31875
Montgomery	G	211-212	770.31875	800.31875
Warren	G	211-212	770.31875	800.31875
Daviess	G	213-214	770.33125	800.33125
Fayette	G	213-214	770.33125	800.33125
Larue	G	213-214	770.33125	800.33125
Laurel	G	213-214	770.33125	800.33125
Lewis	G	213-214	770.33125	800.33125
Daviess	G	215-216	770.34375	800.34375
Fayette	G	215-216	770.34375	800.34375
Larue	G	215-216	770.34375	800.34375
Laurel	G	215-216	770.34375	800.34375
Lewis	G	215-216	770.34375	800.34375
Christian	G	217-218	770.35625	800.35625
Floyd	G	217-218	770.35625	800.35625
Lincoln	G	217-218	770.35625	800.35625
Nicholas	G	217-218	770.35625	800.35625
Christian	G	219-220	770.36875	800.36875
Floyd	G	219-220	770.36875	800.36875
Lincoln	G	219-220	770.36875	800.36875
Nicholas	G	219-220	770.36875	800.36875
Boyd	G	241-242	770.50625	800.50625
Cumberland	G	241-242	770.50625	800.50625
Hardin	G	241-242	770.50625	800.50625
Hopkins	G	241-242	770.50625	800.50625
Jackson	G	241-242	770.50625	800.50625
Pendleton	G	241-242	770.50625	800.50625
Pike	G	241-242	770.50625	800.50625
Boyd	G	243-244	770.51875	800.51875
Cumberland	G	243-244	770.51875	800.51875

Hardin	G	243-244	770.51875	800.51875
Hopkins	G	243-244	770.51875	800.51875
Jackson	G	243-244	770.51875	800.51875
Pendleton	G	243-244	770.51875	800.51875
Pike	G	243-244	770.51875	800.51875
Clark	G	245-246	770.53125	800.53125
Ohio	G	245-246	770.53125	800.53125
Pulaski	G	245-246	770.53125	800.53125
Spencer	G	245-246	770.53125	800.53125
Union	G	245-246	770.53125	800.53125
Clark	G	247-248	770.54375	800.54375
Ohio	G	247-248	770.54375	800.54375
Pulaski	G	247-248	770.54375	800.54375
Spencer	G	247-248	770.54375	800.54375
Union	G	247-248	770.54375	800.54375
Barren	G	249-250	770.55625	800.55625
Bath	G	249-250	770.55625	800.55625
Boyle	G	249-250	770.55625	800.55625
Graves	G	249-250	770.55625	800.55625
Barren	G	251-252	770.56875	800.56875
Bath	G	251-252	770.56875	800.56875
Boyle	G	251-252	770.56875	800.56875
Graves	G	251-252	770.56875	800.56875
Breckinridge	G	253-254	770.58125	800.58125
Fayette	G	253-254	770.58125	800.58125
Letcher	G	253-254	770.58125	800.58125
McCreary	G	253-254	770.58125	800.58125
Webster	G	253-254	770.58125	800.58125
Breckinridge	G	255-256	770.59375	800.59375
Fayette	G	255-256	770.59375	800.59375
Letcher	G	255-256	770.59375	800.59375
McCreary	G	255-256	770.59375	800.59375
Webster	G	255-256	770.59375	800.59375
Christian	G	257-258	770.60625	800.60625
Hart	G	257-258	770.60625	800.60625
Jefferson	G	257-258	770.60625	800.60625
Johnson	G	257-258	770.60625	800.60625
Kenton	G	257-258	770.60625	800.60625
Knox	G	257-258	770.60625	800.60625
McCracken	G	257-258	770.60625	800.60625
Christian	G	259-260	770.61875	800.61875
Hart	G	259-260	770.61875	800.61875
Jefferson	G	259-260	770.61875	800.61875
Johnson	G	259-260	770.61875	800.61875
Kenton	G	259-260	770.61875	800.61875

Knox	G	259-260	770.61875	800.61875
McCracken	G	259-260	770.61875	800.61875
Ballard	G	281-282	770.75625	800.75625
Bourbon	G	281-282	770.75625	800.75625
Daviess	G	281-282	770.75625	800.75625
Perry	G	281-282	770.75625	800.75625
Washington	G	281-282	770.75625	800.75625
Whitley	G	281-282	770.75625	800.75625
Ballard	G	283-284	770.76875	800.76875
Bourbon	G	283-284	770.76875	800.76875
Daviess	G	283-284	770.76875	800.76875
Perry	G	283-284	770.76875	800.76875
Washington	G	283-284	770.76875	800.76875
Whitley	G	283-284	770.76875	800.76875
Adair	G	285-286	770.78125	800.78125
Campbell	G	285-286	770.78125	800.78125
Logan	G	285-286	770.78125	800.78125
Powell	G	285-286	770.78125	800.78125
Shelby	G	285-286	770.78125	800.78125
Union	G	285-286	770.78125	800.78125
Adair	G	287-288	770.79375	800.79375
Campbell	G	287-288	770.79375	800.79375
Logan	G	287-288	770.79375	800.79375
Powell	G	287-288	770.79375	800.79375
Shelby	G	287-288	770.79375	800.79375
Union	G	287-288	770.79375	800.79375
Boyd	G	289-290	770.80625	800.80625
Graves	G	289-290	770.80625	800.80625
Hardin	G	289-290	770.80625	800.80625
Hopkins	G	289-290	770.80625	800.80625
Mason	G	289-290	770.80625	800.80625
Woodford	G	289-290	770.80625	800.80625
Boyd	G	291-292	770.81875	800.81875
Graves	G	291-292	770.81875	800.81875
Hardin	G	291-292	770.81875	800.81875
Hopkins	G	291-292	770.81875	800.81875
Mason	G	291-292	770.81875	800.81875
Woodford	G	291-292	770.81875	800.81875
Butler	G	293-294	770.83125	800.83125
Laurel	G	293-294	770.83125	800.83125
Marion	G	293-294	770.83125	800.83125
Montgomery	G	293-294	770.83125	800.83125
Butler	G	295-296	770.84375	800.84375
Laurel	G	295-296	770.84375	800.84375
Marion	G	295-296	770.84375	800.84375

Montgomery	G	295-296	770.84375	800.84375
Barren	G	297-298	770.85625	800.85625
Bullitt	G	297-298	770.85625	800.85625
Christian	G	297-298	770.85625	800.85625
Fayette	G	297-298	770.85625	800.85625
Floyd	G	297-298	770.85625	800.85625
Gallatin	G	297-298	770.85625	800.85625
Lewis	G	297-298	770.85625	800.85625
Barren	G	299-300	770.86875	800.86875
Bullitt	G	299-300	770.86875	800.86875
Christian	G	299-300	770.86875	800.86875
Fayette	G	299-300	770.86875	800.86875
Floyd	G	299-300	770.86875	800.86875
Gallatin	G	299-300	770.86875	800.86875
Lewis	G	299-300	770.86875	800.86875
Carter	G	321-322	771.00625	801.00625
Garrard	G	321-322	771.00625	801.00625
Grant	G	321-322	771.00625	801.00625
Jefferson	G	321-322	771.00625	801.00625
Perry	G	321-322	771.00625	801.00625
Warren	G	321-322	771.00625	801.00625
Carter	G	323-324	771.01875	801.01875
Garrard	G	323-324	771.01875	801.01875
Grant	G	323-324	771.01875	801.01875
Jefferson	G	323-324	771.01875	801.01875
Perry	G	323-324	771.01875	801.01875
Warren	G	323-324	771.01875	801.01875
Clark	G	325-326	771.03125	801.03125
Knox	G	325-326	771.03125	801.03125
Marshall	G	325-326	771.03125	801.03125
Muhlenberg	G	325-326	771.03125	801.03125
Trimble	G	325-326	771.03125	801.03125
Clark	G	327-328	771.04375	801.04375
Knox	G	327-328	771.04375	801.04375
Marshall	G	327-328	771.04375	801.04375
Muhlenberg	G	327-328	771.04375	801.04375
Trimble	G	327-328	771.04375	801.04375
Bracken	G	329-330	771.05625	801.05625
Daviess	G	329-330	771.05625	801.05625
Lee	G	329-330	771.05625	801.05625
Nelson	G	329-330	771.05625	801.05625
Pike	G	329-330	771.05625	801.05625
Bracken	G	331-332	771.06875	801.06875
Daviess	G	331-332	771.06875	801.06875
Lee	G	331-332	771.06875	801.06875

Nelson	G	331-332	771.06875	801.06875
Pike	G	331-332	771.06875	801.06875
Laurel	G	333-334	771.08125	801.08125
Menifee	G	333-334	771.08125	801.08125
Woodford	G	333-334	771.08125	801.08125
Laurel	G	335-336	771.09375	801.09375
Menifee	G	335-336	771.09375	801.09375
Woodford	G	335-336	771.09375	801.09375
Boyd	G	337-338	771.10625	801.10625
Hardin	G	337-338	771.10625	801.10625
Letcher	G	337-338	771.10625	801.10625
Madison	G	337-338	771.10625	801.10625
Owen	G	337-338	771.10625	801.10625
Russell	G	337-338	771.10625	801.10625
Webster	G	337-338	771.10625	801.10625
Boyd	G	339-340	771.11875	801.11875
Hardin	G	339-340	771.11875	801.11875
Letcher	G	339-340	771.11875	801.11875
Madison	G	339-340	771.11875	801.11875
Owen	G	339-340	771.11875	801.11875
Russell	G	339-340	771.11875	801.11875
Webster	G	339-340	771.11875	801.11875
Graves	G	341-342	771.13125	801.13125
Logan	G	341-342	771.13125	801.13125
Martin	G	341-342	771.13125	801.13125
Monroe	G	341-342	771.13125	801.13125
Owsley	G	341-342	771.13125	801.13125
Rowan	G	341-342	771.13125	801.13125
Spencer	G	341-342	771.13125	801.13125
Graves	G	343-344	771.14375	801.14375
Logan	G	343-344	771.14375	801.14375
Martin	G	343-344	771.14375	801.14375
Monroe	G	343-344	771.14375	801.14375
Owsley	G	343-344	771.14375	801.14375
Rowan	G	343-344	771.14375	801.14375
Spencer	G	343-344	771.14375	801.14375
Boone	G	345-346	771.15625	801.15625
Bourbon	G	345-346	771.15625	801.15625
Harlan	G	345-346	771.15625	801.15625
Henderson	G	345-346	771.15625	801.15625
Pulaski	G	345-346	771.15625	801.15625
Boone	G	347-348	771.16875	801.16875
Bourbon	G	347-348	771.16875	801.16875
Harlan	G	347-348	771.16875	801.16875
Henderson	G	347-348	771.16875	801.16875

Pulaski	G	347-348	771.16875	801.16875
Allen	G	349-350	771.18125	801.18125
Campbell	G	349-350	771.18125	801.18125
Clinton	G	349-350	771.18125	801.18125
Hancock	G	349-350	771.18125	801.18125
Jessamine	G	349-350	771.18125	801.18125
McCracken	G	349-350	771.18125	801.18125
Morgan	G	349-350	771.18125	801.18125
Oldham	G	349-350	771.18125	801.18125
Allen	G	351-352	771.19375	801.19375
Campbell	G	351-352	771.19375	801.19375
Clinton	G	351-352	771.19375	801.19375
Hancock	G	351-352	771.19375	801.19375
Jessamine	G	351-352	771.19375	801.19375
McCracken	G	351-352	771.19375	801.19375
Morgan	G	351-352	771.19375	801.19375
Oldham	G	351-352	771.19375	801.19375
Christian	G	353-354	771.20625	801.20625
Green	G	353-354	771.20625	801.20625
Hickman	G	353-354	771.20625	801.20625
Powell	G	353-354	771.20625	801.20625
Christian	G	355-356	771.21875	801.21875
Green	G	355-356	771.21875	801.21875
Hickman	G	355-356	771.21875	801.21875
Powell	G	355-356	771.21875	801.21875
Grayson	G	357-358	771.23125	801.23125
Rockcastle	G	357-358	771.23125	801.23125
Scott	G	357-358	771.23125	801.23125
Grayson	G	359-360	771.24375	801.24375
Rockcastle	G	359-360	771.24375	801.24375
Scott	G	359-360	771.24375	801.24375
Anderson	G	361-362	771.25625	801.25625
Carlisle	G	361-362	771.25625	801.25625
Hopkins	G	361-362	771.25625	801.25625
Kenton	G	361-362	771.25625	801.25625
Meade	G	361-362	771.25625	801.25625
Wayne	G	361-362	771.25625	801.25625
Wolfe	G	361-362	771.25625	801.25625
Anderson	G	363-364	771.26875	801.26875
Carlisle	G	363-364	771.26875	801.26875
Hopkins	G	363-364	771.26875	801.26875
Kenton	G	363-364	771.26875	801.26875
Meade	G	363-364	771.26875	801.26875
Wayne	G	363-364	771.26875	801.26875
Wolfe	G	363-364	771.26875	801.26875

Bath	G	365-366	771.28125	801.28125
Boyle	G	365-366	771.28125	801.28125
Carroll	G	365-366	771.28125	801.28125
Edmonson	G	365-366	771.28125	801.28125
Knox	G	365-366	771.28125	801.28125
Trigg	G	365-366	771.28125	801.28125
Bath	G	367-368	771.29375	801.29375
Boyle	G	367-368	771.29375	801.29375
Carroll	G	367-368	771.29375	801.29375
Edmonson	G	367-368	771.29375	801.29375
Knox	G	367-368	771.29375	801.29375
Trigg	G	367-368	771.29375	801.29375
Breathitt	G	369-370	771.30625	801.30625
Fayette	G	369-370	771.30625	801.30625
Larue	G	369-370	771.30625	801.30625
Livingston	G	369-370	771.30625	801.30625
McCreary	G	369-370	771.30625	801.30625
Ohio	G	369-370	771.30625	801.30625
Breathitt	G	371-372	771.31875	801.31875
Fayette	G	371-372	771.31875	801.31875
Larue	G	371-372	771.31875	801.31875
Livingston	G	371-372	771.31875	801.31875
McCreary	G	371-372	771.31875	801.31875
Ohio	G	371-372	771.31875	801.31875
Ballard	G	373-374	771.33125	801.33125
Casey	G	373-374	771.33125	801.33125
Grant	G	373-374	771.33125	801.33125
Jefferson	G	373-374	771.33125	801.33125
Menifee	G	373-374	771.33125	801.33125
Pike	G	373-374	771.33125	801.33125
Warren	G	373-374	771.33125	801.33125
Ballard	G	375-376	771.34375	801.34375
Casey	G	375-376	771.34375	801.34375
Grant	G	375-376	771.34375	801.34375
Jefferson	G	375-376	771.34375	801.34375
Menifee	G	375-376	771.34375	801.34375
Pike	G	375-376	771.34375	801.34375
Warren	G	375-376	771.34375	801.34375
Clark	G	377-378	771.35625	801.35625
Clay	G	377-378	771.35625	801.35625
Daviess	G	377-378	771.35625	801.35625
Lawrence	G	377-378	771.35625	801.35625
Nelson	G	377-378	771.35625	801.35625
Clark	G	379-380	771.36875	801.36875
Clay	G	379-380	771.36875	801.36875

Daviess	G	379-380	771.36875	801.36875
Lawrence	G	379-380	771.36875	801.36875
Nelson	G	379-380	771.36875	801.36875
Barren	G	381-382	771.38125	801.38125
Franklin	G	381-382	771.38125	801.38125
Graves	G	381-382	771.38125	801.38125
Knott	G	381-382	771.38125	801.38125
Mason	G	381-382	771.38125	801.38125
Muhlenberg	G	381-382	771.38125	801.38125
Barren	G	383-384	771.39375	801.39375
Franklin	G	383-384	771.39375	801.39375
Graves	G	383-384	771.39375	801.39375
Knott	G	383-384	771.39375	801.39375
Mason	G	383-384	771.39375	801.39375
Muhlenberg	G	383-384	771.39375	801.39375
Carter	G	385-386	771.40625	801.40625
Cumberland	G	385-386	771.40625	801.40625
Garrard	G	385-386	771.40625	801.40625
Hardin	G	385-386	771.40625	801.40625
Henderson	G	385-386	771.40625	801.40625
Simpson	G	385-386	771.40625	801.40625
Carter	G	387-388	771.41875	801.41875
Cumberland	G	387-388	771.41875	801.41875
Garrard	G	387-388	771.41875	801.41875
Hardin	G	387-388	771.41875	801.41875
Henderson	G	387-388	771.41875	801.41875
Simpson	G	387-388	771.41875	801.41875
Butler	G	389-390	771.43125	801.43125
Caldwell	G	389-390	771.43125	801.43125
Harrison	G	389-390	771.43125	801.43125
Magoffin	G	389-390	771.43125	801.43125
Marion	G	389-390	771.43125	801.43125
Oldham	G	389-390	771.43125	801.43125
Whitley	G	389-390	771.43125	801.43125
Butler	G	391-392	771.44375	801.44375
Caldwell	G	391-392	771.44375	801.44375
Harrison	G	391-392	771.44375	801.44375
Magoffin	G	391-392	771.44375	801.44375
Marion	G	391-392	771.44375	801.44375
Oldham	G	391-392	771.44375	801.44375
Whitley	G	391-392	771.44375	801.44375
Allen	G	393-394	771.45625	801.45625
Boone	G	393-394	771.45625	801.45625
Jessamine	G	393-394	771.45625	801.45625
Leslie	G	393-394	771.45625	801.45625

McCracken	G	393-394	771.45625	801.45625
McLean	G	393-394	771.45625	801.45625
Rowan	G	393-394	771.45625	801.45625
Russell	G	393-394	771.45625	801.45625
Allen	G	395-396	771.46875	801.46875
Boone	G	395-396	771.46875	801.46875
Jessamine	G	395-396	771.46875	801.46875
Leslie	G	395-396	771.46875	801.46875
McCracken	G	395-396	771.46875	801.46875
McLean	G	395-396	771.46875	801.46875
Rowan	G	395-396	771.46875	801.46875
Russell	G	395-396	771.46875	801.46875
Boyd	G	397-398	771.48125	801.48125
Hancock	G	397-398	771.48125	801.48125
Jackson	G	397-398	771.48125	801.48125
Metcalfe	G	397-398	771.48125	801.48125
Robertson	G	397-398	771.48125	801.48125
Spencer	G	397-398	771.48125	801.48125
Union	G	397-398	771.48125	801.48125
Boyd	G	399-400	771.49375	801.49375
Hancock	G	399-400	771.49375	801.49375
Jackson	G	399-400	771.49375	801.49375
Metcalfe	G	399-400	771.49375	801.49375
Robertson	G	399-400	771.49375	801.49375
Spencer	G	399-400	771.49375	801.49375
Union	G	399-400	771.49375	801.49375
Floyd	G	401-402	771.50625	801.50625
Marshall	G	401-402	771.50625	801.50625
Owen	G	401-402	771.50625	801.50625
Pulaski	G	401-402	771.50625	801.50625
Floyd	G	403-404	771.51875	801.51875
Marshall	G	403-404	771.51875	801.51875
Owen	G	403-404	771.51875	801.51875
Pulaski	G	403-404	771.51875	801.51875
Christian	G	405-406	771.53125	801.53125
Hart	G	405-406	771.53125	801.53125
Kenton	G	405-406	771.53125	801.53125
Madison	G	405-406	771.53125	801.53125
Christian	G	407-408	771.54375	801.54375
Hart	G	407-408	771.54375	801.54375
Kenton	G	407-408	771.54375	801.54375
Madison	G	407-408	771.54375	801.54375
Breckinridge	G	409-410	771.55625	801.55625
Carroll	G	409-410	771.55625	801.55625
Clinton	G	409-410	771.55625	801.55625

Washington	G	409-410	771.55625	801.55625
Breckinridge	G	411-412	771.56875	801.56875
Carroll	G	411-412	771.56875	801.56875
Clinton	G	411-412	771.56875	801.56875
Washington	G	411-412	771.56875	801.56875
Campbell	G	413-414	771.58125	801.58125
Elliott	G	413-414	771.58125	801.58125
Fayette	G	413-414	771.58125	801.58125
Jefferson	G	413-414	771.58125	801.58125
Laurel	G	413-414	771.58125	801.58125
Livingston	G	413-414	771.58125	801.58125
Warren	G	413-414	771.58125	801.58125
Campbell	G	415-416	771.59375	801.59375
Elliott	G	415-416	771.59375	801.59375
Fayette	G	415-416	771.59375	801.59375
Jefferson	G	415-416	771.59375	801.59375
Laurel	G	415-416	771.59375	801.59375
Livingston	G	415-416	771.59375	801.59375
Warren	G	415-416	771.59375	801.59375
Breathitt	G	417-418	771.60625	801.60625
Henry	G	417-418	771.60625	801.60625
Lincoln	G	417-418	771.60625	801.60625
Trigg	G	417-418	771.60625	801.60625
Breathitt	G	419-420	771.61875	801.61875
Henry	G	419-420	771.61875	801.61875
Lincoln	G	419-420	771.61875	801.61875
Trigg	G	419-420	771.61875	801.61875
Bell	G	421-422	771.63125	801.63125
Bullitt	G	421-422	771.63125	801.63125
Crittenden	G	421-422	771.63125	801.63125
Lawrence	G	421-422	771.63125	801.63125
Logan	G	421-422	771.63125	801.63125
Nicholas	G	421-422	771.63125	801.63125
Bell	G	423-424	771.64375	801.64375
Bullitt	G	423-424	771.64375	801.64375
Crittenden	G	423-424	771.64375	801.64375
Lawrence	G	423-424	771.64375	801.64375
Logan	G	423-424	771.64375	801.64375
Nicholas	G	423-424	771.64375	801.64375
Casey	G	425-426	771.65625	801.65625
Edmonson	G	425-426	771.65625	801.65625
Fulton	G	425-426	771.65625	801.65625
Lee	G	425-426	771.65625	801.65625
Lewis	G	425-426	771.65625	801.65625
Scott	G	425-426	771.65625	801.65625

Casey	G	427-428	771.66875	801.66875
Edmonson	G	427-428	771.66875	801.66875
Fulton	G	427-428	771.66875	801.66875
Lee	G	427-428	771.66875	801.66875
Lewis	G	427-428	771.66875	801.66875
Scott	G	427-428	771.66875	801.66875
Clark	G	429-430	771.68125	801.68125
Henderson	G	429-430	771.68125	801.68125
Larue	G	429-430	771.68125	801.68125
Letcher	G	429-430	771.68125	801.68125
Todd	G	429-430	771.68125	801.68125
Trimble	G	429-430	771.68125	801.68125
Clark	G	431-432	771.69375	801.69375
Henderson	G	431-432	771.69375	801.69375
Larue	G	431-432	771.69375	801.69375
Letcher	G	431-432	771.69375	801.69375
Todd	G	431-432	771.69375	801.69375
Trimble	G	431-432	771.69375	801.69375
Caldwell	G	433-434	771.70625	801.70625
Harrison	G	433-434	771.70625	801.70625
Simpson	G	433-434	771.70625	801.70625
Whitley	G	433-434	771.70625	801.70625
Caldwell	G	435-436	771.71875	801.71875
Harrison	G	435-436	771.71875	801.71875
Simpson	G	435-436	771.71875	801.71875
Whitley	G	435-436	771.71875	801.71875
Adair	G	437-438	771.73125	801.73125
Daviess	G	437-438	771.73125	801.73125
Graves	G	437-438	771.73125	801.73125
Greenup	G	437-438	771.73125	801.73125
Jessamine	G	437-438	771.73125	801.73125
Knott	G	437-438	771.73125	801.73125
Oldham	G	437-438	771.73125	801.73125
Adair	G	439-440	771.74375	801.74375
Daviess	G	439-440	771.74375	801.74375
Graves	G	439-440	771.74375	801.74375
Greenup	G	439-440	771.74375	801.74375
Jessamine	G	439-440	771.74375	801.74375
Knott	G	439-440	771.74375	801.74375
Oldham	G	439-440	771.74375	801.74375
Grayson	G	441-442	771.75625	801.75625
Knox	G	441-442	771.75625	801.75625
Menifee	G	441-442	771.75625	801.75625
Spencer	G	441-442	771.75625	801.75625
Grayson	G	443-444	771.76875	801.76875

Knox	G	443-444	771.76875	801.76875
Menifee	G	443-444	771.76875	801.76875
Spencer	G	443-444	771.76875	801.76875
Boyle	G	445-446	771.78125	801.78125
Cumberland	G	445-446	771.78125	801.78125
Grant	G	445-446	771.78125	801.78125
Hickman	G	445-446	771.78125	801.78125
Meade	G	445-446	771.78125	801.78125
Owsley	G	445-446	771.78125	801.78125
Webster	G	445-446	771.78125	801.78125
Boyle	G	447-448	771.79375	801.79375
Cumberland	G	447-448	771.79375	801.79375
Grant	G	447-448	771.79375	801.79375
Hickman	G	447-448	771.79375	801.79375
Meade	G	447-448	771.79375	801.79375
Owsley	G	447-448	771.79375	801.79375
Webster	G	447-448	771.79375	801.79375
Butler	G	449-450	771.80625	801.80625
Calloway	G	449-450	771.80625	801.80625
Carroll	G	449-450	771.80625	801.80625
Green	G	449-450	771.80625	801.80625
Wolfe	G	449-450	771.80625	801.80625
Butler	G	451-452	771.81875	801.81875
Calloway	G	451-452	771.81875	801.81875
Carroll	G	451-452	771.81875	801.81875
Green	G	451-452	771.81875	801.81875
Wolfe	G	451-452	771.81875	801.81875
Allen	G	453-454	771.83125	801.83125
Bath	G	453-454	771.83125	801.83125
Hardin	G	453-454	771.83125	801.83125
Harlan	G	453-454	771.83125	801.83125
Hopkins	G	453-454	771.83125	801.83125
Kenton	G	453-454	771.83125	801.83125
McCracken	G	453-454	771.83125	801.83125
Pulaski	G	453-454	771.83125	801.83125
Allen	G	455-456	771.84375	801.84375
Bath	G	455-456	771.84375	801.84375
Hardin	G	455-456	771.84375	801.84375
Harlan	G	455-456	771.84375	801.84375
Hopkins	G	455-456	771.84375	801.84375
Kenton	G	455-456	771.84375	801.84375
McCracken	G	455-456	771.84375	801.84375
Pulaski	G	455-456	771.84375	801.84375
Floyd	G	457-458	771.85625	801.85625
Franklin	G	457-458	771.85625	801.85625

Ohio	G	457-458	771.85625	801.85625
Taylor	G	457-458	771.85625	801.85625
Floyd	G	459-460	771.86875	801.86875
Franklin	G	459-460	771.86875	801.86875
Ohio	G	459-460	771.86875	801.86875
Taylor	G	459-460	771.86875	801.86875
Barren	G	461-462	771.88125	801.88125
Bracken	G	461-462	771.88125	801.88125
Jefferson	G	461-462	771.88125	801.88125
Madison	G	461-462	771.88125	801.88125
Barren	G	463-464	771.89375	801.89375
Bracken	G	463-464	771.89375	801.89375
Jefferson	G	463-464	771.89375	801.89375
Madison	G	463-464	771.89375	801.89375
Boone	G	465-466	771.90625	801.90625
Casey	G	465-466	771.90625	801.90625
Montgomery	G	465-466	771.90625	801.90625
Muhlenberg	G	465-466	771.90625	801.90625
Boone	G	467-468	771.91875	801.91875
Casey	G	467-468	771.91875	801.91875
Montgomery	G	467-468	771.91875	801.91875
Muhlenberg	G	467-468	771.91875	801.91875
Bullitt	G	469-470	771.93125	801.93125
Fayette	G	469-470	771.93125	801.93125
Laurel	G	469-470	771.93125	801.93125
Magoffin	G	469-470	771.93125	801.93125
Marshall	G	469-470	771.93125	801.93125
Warren	G	469-470	771.93125	801.93125
Bullitt	G	471-472	771.94375	801.94375
Fayette	G	471-472	771.94375	801.94375
Laurel	G	471-472	771.94375	801.94375
Magoffin	G	471-472	771.94375	801.94375
Marshall	G	471-472	771.94375	801.94375
Warren	G	471-472	771.94375	801.94375
Bell	G	473-474	771.95625	801.95625
Carter	G	473-474	771.95625	801.95625
Crittenden	G	473-474	771.95625	801.95625
Lincoln	G	473-474	771.95625	801.95625
Pendleton	G	473-474	771.95625	801.95625
Pike	G	473-474	771.95625	801.95625
Todd	G	473-474	771.95625	801.95625
Bell	G	475-476	771.96875	801.96875
Carter	G	475-476	771.96875	801.96875
Crittenden	G	475-476	771.96875	801.96875
Lincoln	G	475-476	771.96875	801.96875

Pendleton	G	475-476	771.96875	801.96875
Pike	G	475-476	771.96875	801.96875
Todd	G	475-476	771.96875	801.96875
Edmonson	G	477-478	771.98125	801.98125
McCreary	G	477-478	771.98125	801.98125
Powell	G	477-478	771.98125	801.98125
Shelby	G	477-478	771.98125	801.98125
Trigg	G	477-478	771.98125	801.98125
Edmonson	G	479-480	771.99375	801.99375
McCreary	G	479-480	771.99375	801.99375
Powell	G	479-480	771.99375	801.99375
Shelby	G	479-480	771.99375	801.99375
Trigg	G	479-480	771.99375	801.99375
Ballard	G	481-482	772.00625	802.00625
Breckinridge	G	481-482	772.00625	802.00625
Fleming	G	481-482	772.00625	802.00625
Metcalfe	G	481-482	772.00625	802.00625
Perry	G	481-482	772.00625	802.00625
Woodford	G	481-482	772.00625	802.00625
Ballard	G	483-484	772.01875	802.01875
Breckinridge	G	483-484	772.01875	802.01875
Fleming	G	483-484	772.01875	802.01875
Metcalfe	G	483-484	772.01875	802.01875
Perry	G	483-484	772.01875	802.01875
Woodford	G	483-484	772.01875	802.01875
Boyle	G	485-486	772.03125	802.03125
Caldwell	G	485-486	772.03125	802.03125
Hickman	G	485-486	772.03125	802.03125
Lee	G	485-486	772.03125	802.03125
Logan	G	485-486	772.03125	802.03125
Boyle	G	487-488	772.04375	802.04375
Caldwell	G	487-488	772.04375	802.04375
Hickman	G	487-488	772.04375	802.04375
Lee	G	487-488	772.04375	802.04375
Logan	G	487-488	772.04375	802.04375
Boyd	G	489-490	772.05625	802.05625
Calloway	G	489-490	772.05625	802.05625
Daviess	G	489-490	772.05625	802.05625
Grant	G	489-490	772.05625	802.05625
Knox	G	489-490	772.05625	802.05625
Monroe	G	489-490	772.05625	802.05625
Boyd	G	491-492	772.06875	802.06875
Calloway	G	491-492	772.06875	802.06875
Daviess	G	491-492	772.06875	802.06875
Grant	G	491-492	772.06875	802.06875

Knox	G	491-492	772.06875	802.06875
Monroe	G	491-492	772.06875	802.06875
Carlisle	G	493-494	772.08125	802.08125
Menifee	G	493-494	772.08125	802.08125
Pulaski	G	493-494	772.08125	802.08125
Simpson	G	493-494	772.08125	802.08125
Trimble	G	493-494	772.08125	802.08125
Carlisle	G	495-496	772.09375	802.09375
Menifee	G	495-496	772.09375	802.09375
Pulaski	G	495-496	772.09375	802.09375
Simpson	G	495-496	772.09375	802.09375
Trimble	G	495-496	772.09375	802.09375
Clark	G	497-498	772.10625	802.10625
Knott	G	497-498	772.10625	802.10625
Ohio	G	497-498	772.10625	802.10625
Taylor	G	497-498	772.10625	802.10625
Clark	G	499-500	772.11875	802.11875
Knott	G	499-500	772.11875	802.11875
Ohio	G	499-500	772.11875	802.11875
Taylor	G	499-500	772.11875	802.11875
Allen	G	501-502	772.13125	802.13125
Franklin	G	501-502	772.13125	802.13125
Hardin	G	501-502	772.13125	802.13125
Whitley	G	501-502	772.13125	802.13125
Wolfe	G	501-502	772.13125	802.13125
Allen	G	503-504	772.14375	802.14375
Franklin	G	503-504	772.14375	802.14375
Hardin	G	503-504	772.14375	802.14375
Whitley	G	503-504	772.14375	802.14375
Wolfe	G	503-504	772.14375	802.14375
Boone	G	505-506	772.15625	802.15625
Green	G	505-506	772.15625	802.15625
Jessamine	G	505-506	772.15625	802.15625
Lawrence	G	505-506	772.15625	802.15625
Leslie	G	505-506	772.15625	802.15625
Lyon	G	505-506	772.15625	802.15625
Boone	G	507-508	772.16875	802.16875
Green	G	507-508	772.16875	802.16875
Jessamine	G	507-508	772.16875	802.16875
Lawrence	G	507-508	772.16875	802.16875
Leslie	G	507-508	772.16875	802.16875
Lyon	G	507-508	772.16875	802.16875
Floyd	G	509-510	772.18125	802.18125
Grayson	G	509-510	772.18125	802.18125
Lewis	G	509-510	772.18125	802.18125

Spencer	G	509-510	772.18125	802.18125
Floyd	G	511-512	772.19375	802.19375
Grayson	G	511-512	772.19375	802.19375
Lewis	G	511-512	772.19375	802.19375
Spencer	G	511-512	772.19375	802.19375
Campbell	G	513-514	772.20625	802.20625
Graves	G	513-514	772.20625	802.20625
Henry	G	513-514	772.20625	802.20625
Hopkins	G	513-514	772.20625	802.20625
Madison	G	513-514	772.20625	802.20625
Meade	G	513-514	772.20625	802.20625
Warren	G	513-514	772.20625	802.20625
Wayne	G	513-514	772.20625	802.20625
Campbell	G	515-516	772.21875	802.21875
Graves	G	515-516	772.21875	802.21875
Henry	G	515-516	772.21875	802.21875
Hopkins	G	515-516	772.21875	802.21875
Madison	G	515-516	772.21875	802.21875
Meade	G	515-516	772.21875	802.21875
Warren	G	515-516	772.21875	802.21875
Wayne	G	515-516	772.21875	802.21875
Clay	G	517-518	772.23125	802.23125
Greenup	G	517-518	772.23125	802.23125
Nelson	G	517-518	772.23125	802.23125
Robertson	G	517-518	772.23125	802.23125
Clay	G	519-520	772.24375	802.24375
Greenup	G	519-520	772.24375	802.24375
Nelson	G	519-520	772.24375	802.24375
Robertson	G	519-520	772.24375	802.24375
Clinton	G	521-522	772.25625	802.25625
Garrard	G	521-522	772.25625	802.25625
Hancock	G	521-522	772.25625	802.25625
Morgan	G	521-522	772.25625	802.25625
Union	G	521-522	772.25625	802.25625
Clinton	G	523-524	772.26875	802.26875
Garrard	G	523-524	772.26875	802.26875
Hancock	G	523-524	772.26875	802.26875
Morgan	G	523-524	772.26875	802.26875
Union	G	523-524	772.26875	802.26875
Christian	G	525-526	772.28125	802.28125
Estill	G	525-526	772.28125	802.28125
Fulton	G	525-526	772.28125	802.28125
Hart	G	525-526	772.28125	802.28125
Jefferson	G	525-526	772.28125	802.28125
Pendleton	G	525-526	772.28125	802.28125

Pike	G	525-526	772.28125	802.28125
Christian	G	527-528	772.29375	802.29375
Estill	G	527-528	772.29375	802.29375
Fulton	G	527-528	772.29375	802.29375
Hart	G	527-528	772.29375	802.29375
Jefferson	G	527-528	772.29375	802.29375
Pendleton	G	527-528	772.29375	802.29375
Pike	G	527-528	772.29375	802.29375
Adair	G	529-530	772.30625	802.30625
Anderson	G	529-530	772.30625	802.30625
Breckinridge	G	529-530	772.30625	802.30625
Calloway	G	529-530	772.30625	802.30625
Fleming	G	529-530	772.30625	802.30625
Laurel	G	529-530	772.30625	802.30625
Adair	G	531-532	772.31875	802.31875
Anderson	G	531-532	772.31875	802.31875
Breckinridge	G	531-532	772.31875	802.31875
Calloway	G	531-532	772.31875	802.31875
Fleming	G	531-532	772.31875	802.31875
Laurel	G	531-532	772.31875	802.31875
Bell	G	533-534	772.33125	802.33125
Bourbon	G	533-534	772.33125	802.33125
Bullitt	G	533-534	772.33125	802.33125
Crittenden	G	533-534	772.33125	802.33125
Simpson	G	533-534	772.33125	802.33125
Bell	G	535-536	772.34375	802.34375
Bourbon	G	535-536	772.34375	802.34375
Bullitt	G	535-536	772.34375	802.34375
Crittenden	G	535-536	772.34375	802.34375
Simpson	G	535-536	772.34375	802.34375
Barren	G	537-538	772.35625	802.35625
Kenton	G	537-538	772.35625	802.35625
Lee	G	537-538	772.35625	802.35625
Marshall	G	537-538	772.35625	802.35625
McCreary	G	537-538	772.35625	802.35625
Mercer	G	537-538	772.35625	802.35625
Muhlenberg	G	537-538	772.35625	802.35625
Barren	G	539-540	772.36875	802.36875
Kenton	G	539-540	772.36875	802.36875
Lee	G	539-540	772.36875	802.36875
Marshall	G	539-540	772.36875	802.36875
McCreary	G	539-540	772.36875	802.36875
Mercer	G	539-540	772.36875	802.36875
Muhlenberg	G	539-540	772.36875	802.36875
Hardin	G	541-542	772.38125	802.38125

Magoffin	G	541-542	772.38125	802.38125
Russell	G	541-542	772.38125	802.38125
Scott	G	541-542	772.38125	802.38125
Hardin	G	543-544	772.39375	802.39375
Magoffin	G	543-544	772.39375	802.39375
Russell	G	543-544	772.39375	802.39375
Scott	G	543-544	772.39375	802.39375
Carlisle	G	545-546	772.40625	802.40625
Carter	G	545-546	772.40625	802.40625
Letcher	G	545-546	772.40625	802.40625
Rockcastle	G	545-546	772.40625	802.40625
Shelby	G	545-546	772.40625	802.40625
Todd	G	545-546	772.40625	802.40625
Carlisle	G	547-548	772.41875	802.41875
Carter	G	547-548	772.41875	802.41875
Letcher	G	547-548	772.41875	802.41875
Rockcastle	G	547-548	772.41875	802.41875
Shelby	G	547-548	772.41875	802.41875
Todd	G	547-548	772.41875	802.41875
Clark	G	549-550	772.43125	802.43125
Grayson	G	549-550	772.43125	802.43125
Johnson	G	549-550	772.43125	802.43125
Lyon	G	549-550	772.43125	802.43125
Trimble	G	549-550	772.43125	802.43125
Whitley	G	549-550	772.43125	802.43125
Clark	G	551-552	772.44375	802.44375
Grayson	G	551-552	772.44375	802.44375
Johnson	G	551-552	772.44375	802.44375
Lyon	G	551-552	772.44375	802.44375
Trimble	G	551-552	772.44375	802.44375
Whitley	G	551-552	772.44375	802.44375
Franklin	G	553-554	772.45625	802.45625
Graves	G	553-554	772.45625	802.45625
Hopkins	G	553-554	772.45625	802.45625
Jackson	G	553-554	772.45625	802.45625
Meade	G	553-554	772.45625	802.45625
Franklin	G	555-556	772.46875	802.46875
Graves	G	555-556	772.46875	802.46875
Hopkins	G	555-556	772.46875	802.46875
Jackson	G	555-556	772.46875	802.46875
Meade	G	555-556	772.46875	802.46875
Leslie	G	557-558	772.48125	802.48125
Martin	G	557-558	772.48125	802.48125
Metcalfe	G	557-558	772.48125	802.48125
Ohio	G	557-558	772.48125	802.48125

Rowan	G	557-558	772.48125	802.48125
Washington	G	557-558	772.48125	802.48125
Leslie	G	559-560	772.49375	802.49375
Martin	G	559-560	772.49375	802.49375
Metcalfe	G	559-560	772.49375	802.49375
Ohio	G	559-560	772.49375	802.49375
Rowan	G	559-560	772.49375	802.49375
Washington	G	559-560	772.49375	802.49375
Boyd	G	561-562	772.50625	802.50625
Caldwell	G	561-562	772.50625	802.50625
Carroll	G	561-562	772.50625	802.50625
Madison	G	561-562	772.50625	802.50625
Taylor	G	561-562	772.50625	802.50625
Warren	G	561-562	772.50625	802.50625
Boyd	G	563-564	772.51875	802.51875
Caldwell	G	563-564	772.51875	802.51875
Carroll	G	563-564	772.51875	802.51875
Madison	G	563-564	772.51875	802.51875
Taylor	G	563-564	772.51875	802.51875
Warren	G	563-564	772.51875	802.51875
Cumberland	G	565-566	772.53125	802.53125
Jefferson	G	565-566	772.53125	802.53125
McLean	G	565-566	772.53125	802.53125
Owsley	G	565-566	772.53125	802.53125
Robertson	G	565-566	772.53125	802.53125
Cumberland	G	567-568	772.54375	802.54375
Jefferson	G	567-568	772.54375	802.54375
McLean	G	567-568	772.54375	802.54375
Owsley	G	567-568	772.54375	802.54375
Robertson	G	567-568	772.54375	802.54375
Campbell	G	569-570	772.55625	802.55625
Casey	G	569-570	772.55625	802.55625
Henry	G	569-570	772.55625	802.55625
Morgan	G	569-570	772.55625	802.55625
Union	G	569-570	772.55625	802.55625
Campbell	G	571-572	772.56875	802.56875
Casey	G	571-572	772.56875	802.56875
Henry	G	571-572	772.56875	802.56875
Morgan	G	571-572	772.56875	802.56875
Union	G	571-572	772.56875	802.56875
Bullitt	G	573-574	772.58125	802.58125
Calloway	G	573-574	772.58125	802.58125
Edmonson	G	573-574	772.58125	802.58125
Fayette	G	573-574	772.58125	802.58125
Laurel	G	573-574	772.58125	802.58125

Pike	G	573-574	772.58125	802.58125
Bullitt	G	575-576	772.59375	802.59375
Calloway	G	575-576	772.59375	802.59375
Edmonson	G	575-576	772.59375	802.59375
Fayette	G	575-576	772.59375	802.59375
Laurel	G	575-576	772.59375	802.59375
Pike	G	575-576	772.59375	802.59375
Boyle	G	577-578	772.60625	802.60625
Henderson	G	577-578	772.60625	802.60625
Livingston	G	577-578	772.60625	802.60625
Logan	G	577-578	772.60625	802.60625
Monroe	G	577-578	772.60625	802.60625
Perry	G	577-578	772.60625	802.60625
Boyle	G	579-580	772.61875	802.61875
Henderson	G	579-580	772.61875	802.61875
Livingston	G	579-580	772.61875	802.61875
Logan	G	579-580	772.61875	802.61875
Monroe	G	579-580	772.61875	802.61875
Perry	G	579-580	772.61875	802.61875
Boone	G	581-582	772.63125	802.63125
Christian	G	581-582	772.63125	802.63125
Fleming	G	581-582	772.63125	802.63125
Hardin	G	581-582	772.63125	802.63125
Pulaski	G	581-582	772.63125	802.63125
Woodford	G	581-582	772.63125	802.63125
Boone	G	583-584	772.64375	802.64375
Christian	G	583-584	772.64375	802.64375
Fleming	G	583-584	772.64375	802.64375
Hardin	G	583-584	772.64375	802.64375
Pulaski	G	583-584	772.64375	802.64375
Woodford	G	583-584	772.64375	802.64375
Ballard	G	585-586	772.65625	802.65625
Clay	G	585-586	772.65625	802.65625
Daviess	G	585-586	772.65625	802.65625
Marion	G	585-586	772.65625	802.65625
Owen	G	585-586	772.65625	802.65625
Ballard	G	587-588	772.66875	802.66875
Clay	G	587-588	772.66875	802.66875
Daviess	G	587-588	772.66875	802.66875
Marion	G	587-588	772.66875	802.66875
Owen	G	587-588	772.66875	802.66875
Barren	G	589-590	772.68125	802.68125
Kenton	G	589-590	772.68125	802.68125
Knott	G	589-590	772.68125	802.68125
Marshall	G	589-590	772.68125	802.68125

Montgomery	G	589-590	772.68125	802.68125
Oldham	G	589-590	772.68125	802.68125
Todd	G	589-590	772.68125	802.68125
Barren	G	591-592	772.69375	802.69375
Kenton	G	591-592	772.69375	802.69375
Knott	G	591-592	772.69375	802.69375
Marshall	G	591-592	772.69375	802.69375
Montgomery	G	591-592	772.69375	802.69375
Oldham	G	591-592	772.69375	802.69375
Todd	G	591-592	772.69375	802.69375
Harrison	G	593-594	772.70625	802.70625
Johnson	G	593-594	772.70625	802.70625
Knox	G	593-594	772.70625	802.70625
Larue	G	593-594	772.70625	802.70625
Harrison	G	595-596	772.71875	802.71875
Johnson	G	595-596	772.71875	802.71875
Knox	G	595-596	772.71875	802.71875
Larue	G	595-596	772.71875	802.71875
Breckinridge	G	597-598	772.73125	802.73125
Shelby	G	597-598	772.73125	802.73125
Wayne	G	597-598	772.73125	802.73125
Webster	G	597-598	772.73125	802.73125
Wolfe	G	597-598	772.73125	802.73125
Breckinridge	G	599-600	772.74375	802.74375
Shelby	G	599-600	772.74375	802.74375
Wayne	G	599-600	772.74375	802.74375
Webster	G	599-600	772.74375	802.74375
Wolfe	G	599-600	772.74375	802.74375
Elliott	G	601-602	772.75625	802.75625
Harlan	G	601-602	772.75625	802.75625
Hart	G	601-602	772.75625	802.75625
Madison	G	601-602	772.75625	802.75625
McCracken	G	601-602	772.75625	802.75625
Trimble	G	601-602	772.75625	802.75625
Elliott	G	603-604	772.76875	802.76875
Harlan	G	603-604	772.76875	802.76875
Hart	G	603-604	772.76875	802.76875
Madison	G	603-604	772.76875	802.76875
McCracken	G	603-604	772.76875	802.76875
Trimble	G	603-604	772.76875	802.76875
Greenup	G	605-606	772.78125	802.78125
Jefferson	G	605-606	772.78125	802.78125
Lee	G	605-606	772.78125	802.78125
Lyon	G	605-606	772.78125	802.78125
McCreary	G	605-606	772.78125	802.78125

Ohio	G	605-606	772.78125	802.78125
Scott	G	605-606	772.78125	802.78125
Greenup	G	607-608	772.79375	802.79375
Jefferson	G	607-608	772.79375	802.79375
Lee	G	607-608	772.79375	802.79375
Lyon	G	607-608	772.79375	802.79375
McCreary	G	607-608	772.79375	802.79375
Ohio	G	607-608	772.79375	802.79375
Scott	G	607-608	772.79375	802.79375
Campbell	G	609-610	772.80625	802.80625
Green	G	609-610	772.80625	802.80625
Hopkins	G	609-610	772.80625	802.80625
Letcher	G	609-610	772.80625	802.80625
Rockcastle	G	609-610	772.80625	802.80625
Campbell	G	611-612	772.81875	802.81875
Green	G	611-612	772.81875	802.81875
Hopkins	G	611-612	772.81875	802.81875
Letcher	G	611-612	772.81875	802.81875
Rockcastle	G	611-612	772.81875	802.81875
Calloway	G	613-614	772.83125	802.83125
Cumberland	G	613-614	772.83125	802.83125
Fayette	G	613-614	772.83125	802.83125
Grayson	G	613-614	772.83125	802.83125
Morgan	G	613-614	772.83125	802.83125
Calloway	G	615-616	772.84375	802.84375
Cumberland	G	615-616	772.84375	802.84375
Fayette	G	615-616	772.84375	802.84375
Grayson	G	615-616	772.84375	802.84375
Morgan	G	615-616	772.84375	802.84375
Caldwell	G	617-618	772.85625	802.85625
Fulton	G	617-618	772.85625	802.85625
Martin	G	617-618	772.85625	802.85625
Mercer	G	617-618	772.85625	802.85625
Owsley	G	617-618	772.85625	802.85625
Pendleton	G	617-618	772.85625	802.85625
Warren	G	617-618	772.85625	802.85625
Caldwell	G	619-620	772.86875	802.86875
Fulton	G	619-620	772.86875	802.86875
Martin	G	619-620	772.86875	802.86875
Mercer	G	619-620	772.86875	802.86875
Owsley	G	619-620	772.86875	802.86875
Pendleton	G	619-620	772.86875	802.86875
Warren	G	619-620	772.86875	802.86875
Henderson	G	621-622	772.88125	802.88125
Henry	G	621-622	772.88125	802.88125

Lincoln	G	621-622	772.88125	802.88125
Magoffin	G	621-622	772.88125	802.88125
Meade	G	621-622	772.88125	802.88125
Monroe	G	621-622	772.88125	802.88125
Nicholas	G	621-622	772.88125	802.88125
Henderson	G	623-624	772.89375	802.89375
Henry	G	623-624	772.89375	802.89375
Lincoln	G	623-624	772.89375	802.89375
Magoffin	G	623-624	772.89375	802.89375
Meade	G	623-624	772.89375	802.89375
Monroe	G	623-624	772.89375	802.89375
Nicholas	G	623-624	772.89375	802.89375
Anderson	G	625-626	772.90625	802.90625
Estill	G	625-626	772.90625	802.90625
Hancock	G	625-626	772.90625	802.90625
Pike	G	625-626	772.90625	802.90625
Anderson	G	627-628	772.91875	802.91875
Estill	G	627-628	772.91875	802.91875
Hancock	G	627-628	772.91875	802.91875
Pike	G	627-628	772.91875	802.91875
Barren	G	629-630	772.93125	802.93125
Boone	G	629-630	772.93125	802.93125
Bourbon	G	629-630	772.93125	802.93125
Bullitt	G	629-630	772.93125	802.93125
Graves	G	629-630	772.93125	802.93125
Perry	G	629-630	772.93125	802.93125
Pulaski	G	629-630	772.93125	802.93125
Todd	G	629-630	772.93125	802.93125
Barren	G	631-632	772.94375	802.94375
Boone	G	631-632	772.94375	802.94375
Bourbon	G	631-632	772.94375	802.94375
Bullitt	G	631-632	772.94375	802.94375
Graves	G	631-632	772.94375	802.94375
Perry	G	631-632	772.94375	802.94375
Pulaski	G	631-632	772.94375	802.94375
Todd	G	631-632	772.94375	802.94375
Adair	G	633-634	772.95625	802.95625
Carroll	G	633-634	772.95625	802.95625
Jessamine	G	633-634	772.95625	802.95625
Mason	G	633-634	772.95625	802.95625
Adair	G	635-636	772.96875	802.96875
Carroll	G	635-636	772.96875	802.96875
Jessamine	G	635-636	772.96875	802.96875
Mason	G	635-636	772.96875	802.96875
Daviess	G	637-638	772.98125	802.98125

Harrison	G	637-638	772.98125	802.98125
Johnson	G	637-638	772.98125	802.98125
Laurel	G	637-638	772.98125	802.98125
Marion	G	637-638	772.98125	802.98125
Daviess	G	639-640	772.99375	802.99375
Harrison	G	639-640	772.99375	802.99375
Johnson	G	639-640	772.99375	802.99375
Laurel	G	639-640	772.99375	802.99375
Marion	G	639-640	772.99375	802.99375
Clay	G	661-662	773.13125	803.13125
Fayette	G	661-662	773.13125	803.13125
Hardin	G	661-662	773.13125	803.13125
Muhlenberg	G	661-662	773.13125	803.13125
Russell	G	661-662	773.13125	803.13125
Clay	G	663-664	773.14375	803.14375
Fayette	G	663-664	773.14375	803.14375
Hardin	G	663-664	773.14375	803.14375
Muhlenberg	G	663-664	773.14375	803.14375
Russell	G	663-664	773.14375	803.14375
Boyle	G	665-666	773.15625	803.15625
Fleming	G	665-666	773.15625	803.15625
Floyd	G	665-666	773.15625	803.15625
Hancock	G	665-666	773.15625	803.15625
Livingston	G	665-666	773.15625	803.15625
Oldham	G	665-666	773.15625	803.15625
Boyle	G	667-668	773.16875	803.16875
Fleming	G	667-668	773.16875	803.16875
Floyd	G	667-668	773.16875	803.16875
Hancock	G	667-668	773.16875	803.16875
Livingston	G	667-668	773.16875	803.16875
Oldham	G	667-668	773.16875	803.16875
Elliott	G	669-670	773.18125	803.18125
Franklin	G	669-670	773.18125	803.18125
Union	G	669-670	773.18125	803.18125
Warren	G	669-670	773.18125	803.18125
Whitley	G	669-670	773.18125	803.18125
Elliott	G	671-672	773.19375	803.19375
Franklin	G	671-672	773.19375	803.19375
Union	G	671-672	773.19375	803.19375
Warren	G	671-672	773.19375	803.19375
Whitley	G	671-672	773.19375	803.19375
Greenup	G	673-674	773.20625	803.20625
Jefferson	G	673-674	773.20625	803.20625
Madison	G	673-674	773.20625	803.20625
McCracken	G	673-674	773.20625	803.20625

Metcalfe	G	673-674	773.20625	803.20625
Robertson	G	673-674	773.20625	803.20625
Greenup	G	675-676	773.21875	803.21875
Jefferson	G	675-676	773.21875	803.21875
Madison	G	675-676	773.21875	803.21875
McCracken	G	675-676	773.21875	803.21875
Metcalfe	G	675-676	773.21875	803.21875
Robertson	G	675-676	773.21875	803.21875
Christian	G	677-678	773.23125	803.23125
Lawrence	G	677-678	773.23125	803.23125
Nelson	G	677-678	773.23125	803.23125
Wayne	G	677-678	773.23125	803.23125
Christian	G	679-680	773.24375	803.24375
Lawrence	G	679-680	773.24375	803.24375
Nelson	G	679-680	773.24375	803.24375
Wayne	G	679-680	773.24375	803.24375
Hopkins	G	701-702	773.38125	803.38125
Pulaski	G	701-702	773.38125	803.38125
Shelby	G	701-702	773.38125	803.38125
Wolfe	G	701-702	773.38125	803.38125
Hopkins	G	703-704	773.39375	803.39375
Pulaski	G	703-704	773.39375	803.39375
Shelby	G	703-704	773.39375	803.39375
Wolfe	G	703-704	773.39375	803.39375
Ballard	G	705-706	773.40625	803.40625
Bath	G	705-706	773.40625	803.40625
Clay	G	705-706	773.40625	803.40625
Hardin	G	705-706	773.40625	803.40625
Kenton	G	705-706	773.40625	803.40625
Martin	G	705-706	773.40625	803.40625
Monroe	G	705-706	773.40625	803.40625
Ballard	G	707-708	773.41875	803.41875
Bath	G	707-708	773.41875	803.41875
Clay	G	707-708	773.41875	803.41875
Hardin	G	707-708	773.41875	803.41875
Kenton	G	707-708	773.41875	803.41875
Martin	G	707-708	773.41875	803.41875
Monroe	G	707-708	773.41875	803.41875
Bracken	G	709-710	773.43125	803.43125
Daviess	G	709-710	773.43125	803.43125
Hickman	G	709-710	773.43125	803.43125
Jessamine	G	709-710	773.43125	803.43125
Knott	G	709-710	773.43125	803.43125
Russell	G	709-710	773.43125	803.43125
Bracken	G	711-712	773.44375	803.44375

Daviess	G	711-712	773.44375	803.44375
Hickman	G	711-712	773.44375	803.44375
Jessamine	G	711-712	773.44375	803.44375
Knott	G	711-712	773.44375	803.44375
Russell	G	711-712	773.44375	803.44375
Jefferson	G	713-714	773.45625	803.45625
Laurel	G	713-714	773.45625	803.45625
Marshall	G	713-714	773.45625	803.45625
Montgomery	G	713-714	773.45625	803.45625
Warren	G	713-714	773.45625	803.45625
Jefferson	G	715-716	773.46875	803.46875
Laurel	G	715-716	773.46875	803.46875
Marshall	G	715-716	773.46875	803.46875
Montgomery	G	715-716	773.46875	803.46875
Warren	G	715-716	773.46875	803.46875
Fayette	G	717-718	773.48125	803.48125
Fulton	G	717-718	773.48125	803.48125
Gallatin	G	717-718	773.48125	803.48125
Larue	G	717-718	773.48125	803.48125
Leslie	G	717-718	773.48125	803.48125
Lewis	G	717-718	773.48125	803.48125
Muhlenberg	G	717-718	773.48125	803.48125
Wayne	G	717-718	773.48125	803.48125
Fayette	G	719-720	773.49375	803.49375
Fulton	G	719-720	773.49375	803.49375
Gallatin	G	719-720	773.49375	803.49375
Larue	G	719-720	773.49375	803.49375
Leslie	G	719-720	773.49375	803.49375
Lewis	G	719-720	773.49375	803.49375
Muhlenberg	G	719-720	773.49375	803.49375
Wayne	G	719-720	773.49375	803.49375
Adair	G	741-742	773.63125	803.63125
Boone	G	741-742	773.63125	803.63125
Bullitt	G	741-742	773.63125	803.63125
Christian	G	741-742	773.63125	803.63125
Greenup	G	741-742	773.63125	803.63125
Hancock	G	741-742	773.63125	803.63125
Harlan	G	741-742	773.63125	803.63125
Madison	G	741-742	773.63125	803.63125
McCracken	G	741-742	773.63125	803.63125
Adair	G	743-744	773.64375	803.64375
Boone	G	743-744	773.64375	803.64375
Bullitt	G	743-744	773.64375	803.64375
Christian	G	743-744	773.64375	803.64375
Greenup	G	743-744	773.64375	803.64375

Hancock	G	743-744	773.64375	803.64375
Harlan	G	743-744	773.64375	803.64375
Madison	G	743-744	773.64375	803.64375
McCracken	G	743-744	773.64375	803.64375
Breathitt	G	745-746	773.65625	803.65625
Crittenden	G	745-746	773.65625	803.65625
Hart	G	745-746	773.65625	803.65625
Mason	G	745-746	773.65625	803.65625
Pulaski	G	745-746	773.65625	803.65625
Woodford	G	745-746	773.65625	803.65625
Breathitt	G	747-748	773.66875	803.66875
Crittenden	G	747-748	773.66875	803.66875
Hart	G	747-748	773.66875	803.66875
Mason	G	747-748	773.66875	803.66875
Pulaski	G	747-748	773.66875	803.66875
Woodford	G	747-748	773.66875	803.66875
Daviess	G	749-750	773.68125	803.68125
Pike	G	749-750	773.68125	803.68125
Powell	G	749-750	773.68125	803.68125
Washington	G	749-750	773.68125	803.68125
Daviess	G	751-752	773.69375	803.69375
Pike	G	751-752	773.69375	803.69375
Powell	G	751-752	773.69375	803.69375
Washington	G	751-752	773.69375	803.69375
Elliott	G	753-754	773.70625	803.70625
Jefferson	G	753-754	773.70625	803.70625
Lyon	G	753-754	773.70625	803.70625
Metcalfe	G	753-754	773.70625	803.70625
Rockcastle	G	753-754	773.70625	803.70625
Scott	G	753-754	773.70625	803.70625
Elliott	G	755-756	773.71875	803.71875
Jefferson	G	755-756	773.71875	803.71875
Lyon	G	755-756	773.71875	803.71875
Metcalfe	G	755-756	773.71875	803.71875
Rockcastle	G	755-756	773.71875	803.71875
Scott	G	755-756	773.71875	803.71875
Boyd	G	757-758	773.73125	803.73125
Clark	G	757-758	773.73125	803.73125
Hopkins	G	757-758	773.73125	803.73125
Nelson	G	757-758	773.73125	803.73125
Perry	G	757-758	773.73125	803.73125
Warren	G	757-758	773.73125	803.73125
Boyd	G	759-760	773.74375	803.74375
Clark	G	759-760	773.74375	803.74375
Hopkins	G	759-760	773.74375	803.74375

Nelson	G	759-760	773.74375	803.74375
Perry	G	759-760	773.74375	803.74375
Warren	G	759-760	773.74375	803.74375
Allen	G	781-782	773.88125	803.88125
Fayette	G	781-782	773.88125	803.88125
Floyd	G	781-782	773.88125	803.88125
Henderson	G	781-782	773.88125	803.88125
Marshall	G	781-782	773.88125	803.88125
Oldham	G	781-782	773.88125	803.88125
Taylor	G	781-782	773.88125	803.88125
Whitley	G	781-782	773.88125	803.88125
Allen	G	783-784	773.89375	803.89375
Fayette	G	783-784	773.89375	803.89375
Floyd	G	783-784	773.89375	803.89375
Henderson	G	783-784	773.89375	803.89375
Marshall	G	783-784	773.89375	803.89375
Oldham	G	783-784	773.89375	803.89375
Taylor	G	783-784	773.89375	803.89375
Whitley	G	783-784	773.89375	803.89375
Clinton	G	785-786	773.90625	803.90625
Hardin	G	785-786	773.90625	803.90625
Mercer	G	785-786	773.90625	803.90625
Owsley	G	785-786	773.90625	803.90625
Rowan	G	785-786	773.90625	803.90625
Clinton	G	787-788	773.91875	803.91875
Hardin	G	787-788	773.91875	803.91875
Mercer	G	787-788	773.91875	803.91875
Owsley	G	787-788	773.91875	803.91875
Rowan	G	787-788	773.91875	803.91875
Daviess	G	789-790	773.93125	803.93125
Graves	G	789-790	773.93125	803.93125
Madison	G	789-790	773.93125	803.93125
Monroe	G	789-790	773.93125	803.93125
Pendleton	G	789-790	773.93125	803.93125
Daviess	G	791-792	773.94375	803.94375
Graves	G	791-792	773.94375	803.94375
Madison	G	791-792	773.94375	803.94375
Monroe	G	791-792	773.94375	803.94375
Pendleton	G	791-792	773.94375	803.94375
Adair	G	793-794	773.95625	803.95625
Breathitt	G	793-794	773.95625	803.95625
Christian	G	793-794	773.95625	803.95625
Jefferson	G	793-794	773.95625	803.95625
Nicholas	G	793-794	773.95625	803.95625
Adair	G	795-796	773.96875	803.96875

Breathitt	G	795-796	773.96875	803.96875
Christian	G	795-796	773.96875	803.96875
Jefferson	G	795-796	773.96875	803.96875
Nicholas	G	795-796	773.96875	803.96875
Boyd	G	797-798	773.98125	803.98125
Garrard	G	797-798	773.98125	803.98125
Grant	G	797-798	773.98125	803.98125
Knox	G	797-798	773.98125	803.98125
McCracken	G	797-798	773.98125	803.98125
Menifee	G	797-798	773.98125	803.98125
Pike	G	797-798	773.98125	803.98125
Warren	G	797-798	773.98125	803.98125
Boyd	G	799-800	773.99375	803.99375
Garrard	G	799-800	773.99375	803.99375
Grant	G	799-800	773.99375	803.99375
Knox	G	799-800	773.99375	803.99375
McCracken	G	799-800	773.99375	803.99375
Menifee	G	799-800	773.99375	803.99375
Pike	G	799-800	773.99375	803.99375
Warren	G	799-800	773.99375	803.99375
Calloway	G	821-822	774.13125	804.13125
Fayette	G	821-822	774.13125	804.13125
Hancock	G	821-822	774.13125	804.13125
McCreary	G	821-822	774.13125	804.13125
Perry	G	821-822	774.13125	804.13125
Taylor	G	821-822	774.13125	804.13125
Calloway	G	823-824	774.14375	804.14375
Fayette	G	823-824	774.14375	804.14375
Hancock	G	823-824	774.14375	804.14375
McCreary	G	823-824	774.14375	804.14375
Perry	G	823-824	774.14375	804.14375
Taylor	G	823-824	774.14375	804.14375
Bell	G	825-826	774.15625	804.15625
Johnson	G	825-826	774.15625	804.15625
Kenton	G	825-826	774.15625	804.15625
McLean	G	825-826	774.15625	804.15625
Mercer	G	825-826	774.15625	804.15625
Bell	G	827-828	774.16875	804.16875
Johnson	G	827-828	774.16875	804.16875
Kenton	G	827-828	774.16875	804.16875
McLean	G	827-828	774.16875	804.16875
Mercer	G	827-828	774.16875	804.16875
Ballard	G	829-830	774.18125	804.18125
Bourbon	G	829-830	774.18125	804.18125
Butler	G	829-830	774.18125	804.18125

Laurel	G	829-830	774.18125	804.18125
Nelson	G	829-830	774.18125	804.18125
Union	G	829-830	774.18125	804.18125
Ballard	G	831-832	774.19375	804.19375
Bourbon	G	831-832	774.19375	804.19375
Butler	G	831-832	774.19375	804.19375
Laurel	G	831-832	774.19375	804.19375
Nelson	G	831-832	774.19375	804.19375
Union	G	831-832	774.19375	804.19375
Barren	G	833-834	774.20625	804.20625
Daviess	G	833-834	774.20625	804.20625
Gallatin	G	833-834	774.20625	804.20625
Jefferson	G	833-834	774.20625	804.20625
Jessamine	G	833-834	774.20625	804.20625
Letcher	G	833-834	774.20625	804.20625
Mason	G	833-834	774.20625	804.20625
Barren	G	835-836	774.21875	804.21875
Daviess	G	835-836	774.21875	804.21875
Gallatin	G	835-836	774.21875	804.21875
Jefferson	G	835-836	774.21875	804.21875
Jessamine	G	835-836	774.21875	804.21875
Letcher	G	835-836	774.21875	804.21875
Mason	G	835-836	774.21875	804.21875
Christian	G	837-838	774.23125	804.23125
Marion	G	837-838	774.23125	804.23125
Rowan	G	837-838	774.23125	804.23125
Scott	G	837-838	774.23125	804.23125
Whitley	G	837-838	774.23125	804.23125
Christian	G	839-840	774.24375	804.24375
Marion	G	839-840	774.24375	804.24375
Rowan	G	839-840	774.24375	804.24375
Scott	G	839-840	774.24375	804.24375
Whitley	G	839-840	774.24375	804.24375
Bracken	G	861-862	774.38125	804.38125
Caldwell	G	861-862	774.38125	804.38125
Elliott	G	861-862	774.38125	804.38125
Madison	G	861-862	774.38125	804.38125
Warren	G	861-862	774.38125	804.38125
Bracken	G	863-864	774.39375	804.39375
Caldwell	G	863-864	774.39375	804.39375
Elliott	G	863-864	774.39375	804.39375
Madison	G	863-864	774.39375	804.39375
Warren	G	863-864	774.39375	804.39375
Carlisle	G	865-866	774.40625	804.40625
Hardin	G	865-866	774.40625	804.40625

McLean	G	865-866	774.40625	804.40625
Owen	G	865-866	774.40625	804.40625
Perry	G	865-866	774.40625	804.40625
Carlisle	G	867-868	774.41875	804.41875
Hardin	G	867-868	774.41875	804.41875
McLean	G	867-868	774.41875	804.41875
Owen	G	867-868	774.41875	804.41875
Perry	G	867-868	774.41875	804.41875
Butler	G	869-870	774.43125	804.43125
Campbell	G	869-870	774.43125	804.43125
Fayette	G	869-870	774.43125	804.43125
Fulton	G	869-870	774.43125	804.43125
Johnson	G	869-870	774.43125	804.43125
Knox	G	869-870	774.43125	804.43125
Livingston	G	869-870	774.43125	804.43125
Taylor	G	869-870	774.43125	804.43125
Butler	G	871-872	774.44375	804.44375
Campbell	G	871-872	774.44375	804.44375
Fayette	G	871-872	774.44375	804.44375
Fulton	G	871-872	774.44375	804.44375
Johnson	G	871-872	774.44375	804.44375
Knox	G	871-872	774.44375	804.44375
Livingston	G	871-872	774.44375	804.44375
Taylor	G	871-872	774.44375	804.44375
Breathitt	G	873-874	774.45625	804.45625
Calloway	G	873-874	774.45625	804.45625
Daviess	G	873-874	774.45625	804.45625
Gallatin	G	873-874	774.45625	804.45625
Jefferson	G	873-874	774.45625	804.45625
Simpson	G	873-874	774.45625	804.45625
Breathitt	G	875-876	774.46875	804.46875
Calloway	G	875-876	774.46875	804.46875
Daviess	G	875-876	774.46875	804.46875
Gallatin	G	875-876	774.46875	804.46875
Jefferson	G	875-876	774.46875	804.46875
Simpson	G	875-876	774.46875	804.46875
Barren	G	877-878	774.48125	804.48125
Christian	G	877-878	774.48125	804.48125
Fleming	G	877-878	774.48125	804.48125
Franklin	G	877-878	774.48125	804.48125
Harlan	G	877-878	774.48125	804.48125
McCracken	G	877-878	774.48125	804.48125
Pulaski	G	877-878	774.48125	804.48125
Barren	G	879-880	774.49375	804.49375
Christian	G	879-880	774.49375	804.49375

Fleming	G	879-880	774.49375	804.49375
Franklin	G	879-880	774.49375	804.49375
Harlan	G	879-880	774.49375	804.49375
McCracken	G	879-880	774.49375	804.49375
Pulaski	G	879-880	774.49375	804.49375
Greenup	G	901-902	774.63125	804.63125
Hickman	G	901-902	774.63125	804.63125
Kenton	G	901-902	774.63125	804.63125
Montgomery	G	901-902	774.63125	804.63125
Pike	G	901-902	774.63125	804.63125
Russell	G	901-902	774.63125	804.63125
Shelby	G	901-902	774.63125	804.63125
Trigg	G	901-902	774.63125	804.63125
Warren	G	901-902	774.63125	804.63125
Greenup	G	903-904	774.64375	804.64375
Hickman	G	903-904	774.64375	804.64375
Kenton	G	903-904	774.64375	804.64375
Montgomery	G	903-904	774.64375	804.64375
Pike	G	903-904	774.64375	804.64375
Russell	G	903-904	774.64375	804.64375
Shelby	G	903-904	774.64375	804.64375
Trigg	G	903-904	774.64375	804.64375
Warren	G	903-904	774.64375	804.64375
Grayson	G	905-906	774.65625	804.65625
Hopkins	G	905-906	774.65625	804.65625
Magoffin	G	905-906	774.65625	804.65625
Robertson	G	905-906	774.65625	804.65625
Washington	G	905-906	774.65625	804.65625
Grayson	G	907-908	774.66875	804.66875
Hopkins	G	907-908	774.66875	804.66875
Magoffin	G	907-908	774.66875	804.66875
Robertson	G	907-908	774.66875	804.66875
Washington	G	907-908	774.66875	804.66875
Adair	G	909-910	774.68125	804.68125
Bullitt	G	909-910	774.68125	804.68125
Campbell	G	909-910	774.68125	804.68125
Carter	G	909-910	774.68125	804.68125
Fayette	G	909-910	774.68125	804.68125
Laurel	G	909-910	774.68125	804.68125
Logan	G	909-910	774.68125	804.68125
Marshall	G	909-910	774.68125	804.68125
Adair	G	911-912	774.69375	804.69375
Bullitt	G	911-912	774.69375	804.69375
Campbell	G	911-912	774.69375	804.69375
Carter	G	911-912	774.69375	804.69375

Fayette	G	911-912	774.69375	804.69375
Laurel	G	911-912	774.69375	804.69375
Logan	G	911-912	774.69375	804.69375
Marshall	G	911-912	774.69375	804.69375
Martin	G	913-914	774.70625	804.70625
Mercer	G	913-914	774.70625	804.70625
Nicholas	G	913-914	774.70625	804.70625
Owsley	G	913-914	774.70625	804.70625
Webster	G	913-914	774.70625	804.70625
Martin	G	915-916	774.71875	804.71875
Mercer	G	915-916	774.71875	804.71875
Nicholas	G	915-916	774.71875	804.71875
Owsley	G	915-916	774.71875	804.71875
Webster	G	915-916	774.71875	804.71875
Edmonson	G	917-918	774.73125	804.73125
Livingston	G	917-918	774.73125	804.73125
Morgan	G	917-918	774.73125	804.73125
Pulaski	G	917-918	774.73125	804.73125
Scott	G	917-918	774.73125	804.73125
Edmonson	G	919-920	774.74375	804.74375
Livingston	G	919-920	774.74375	804.74375
Morgan	G	919-920	774.74375	804.74375
Pulaski	G	919-920	774.74375	804.74375
Scott	G	919-920	774.74375	804.74375
Boyd	G	941-942	774.88125	804.88125
Christian	G	941-942	774.88125	804.88125
Franklin	G	941-942	774.88125	804.88125
Lee	G	941-942	774.88125	804.88125
Mason	G	941-942	774.88125	804.88125
McCracken	G	941-942	774.88125	804.88125
Pike	G	941-942	774.88125	804.88125
Boyd	G	943-944	774.89375	804.89375
Christian	G	943-944	774.89375	804.89375
Franklin	G	943-944	774.89375	804.89375
Lee	G	943-944	774.89375	804.89375
Mason	G	943-944	774.89375	804.89375
McCracken	G	943-944	774.89375	804.89375
Pike	G	943-944	774.89375	804.89375
Clay	G	945-946	774.90625	804.90625
Daviess	G	945-946	774.90625	804.90625
Hart	G	945-946	774.90625	804.90625
Jefferson	G	945-946	774.90625	804.90625
Jessamine	G	945-946	774.90625	804.90625
Rowan	G	945-946	774.90625	804.90625
Clay	G	947-948	774.91875	804.91875

Daviess	G	947-948	774.91875	804.91875
Hart	G	947-948	774.91875	804.91875
Jefferson	G	947-948	774.91875	804.91875
Jessamine	G	947-948	774.91875	804.91875
Rowan	G	947-948	774.91875	804.91875

14.2 Appendix H Pre-Coordination Procedures

Simplified 700 MHz Pre-assignment Rules

Introduction

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

Overview

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

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

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

Discussion

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

The value of 40 dB in the 700 MHz band 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 bandwidth receiver would be in the range of -126 dBm, so there is a margin of approximately 33 dB available for “noise limited” reliability. Figure 1 shows show the various interfering sources and how they accumulate to form a composite noise floor that can be used to determine the “reliability” or probability of achieving the desired performance in the presence of various interfering sources with differing characteristics.

If CMRS out-of-band emissions (OOBE) noise is allowed to be equal to the original thermal noise floor, there is a 3 dB reduction[2] in the available margin. This lowers the reliability and/or the channel performance of Public Safety systems. The left side of Figure 1 shows that the original 33 dB margin is reduced by 3 dB to only 30 dB available to determine "noise + CMRS OOBE limited" performance and reliability.

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

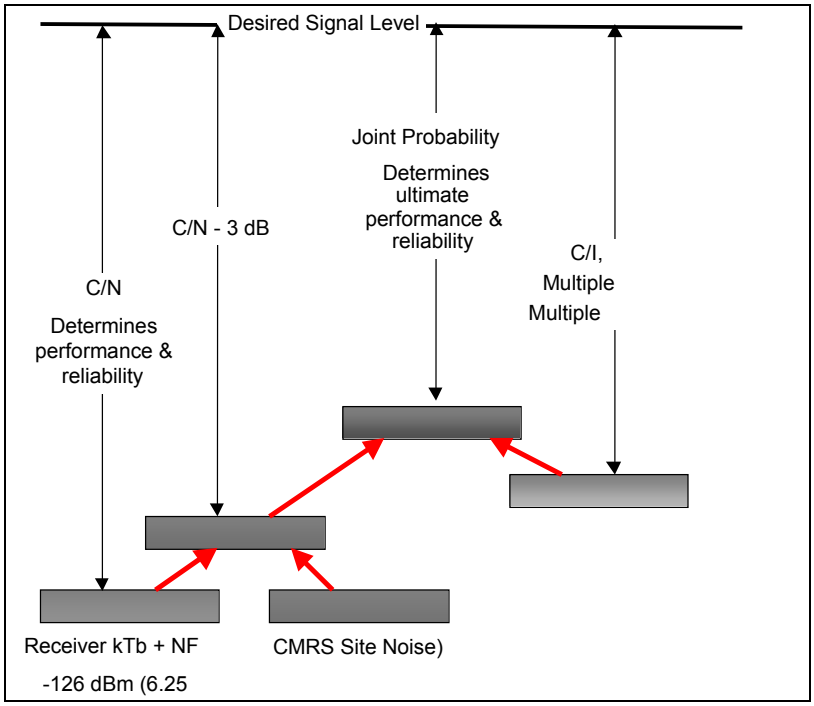


Figure 1 - Interfering Sources Create A "Noise" Level Influencing Reliability

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

In addition, unknown adjacent and alternate channel assignments need to be accounted for. The co-channel and adjacent/alternate sources are shown in the right hand side of Figure 1. At the edge of the service area, there would normally be only a single co-channel source, but there could potentially be several adjacent or alternate channel sources involved. It is recommended that co-channel assignments limit interference to <1% at the edge of the service area (worst case mile). A C/I ratio of 26.4 dB plus the required capture value (~10 dB) is required to achieve this goal.[3].

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

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

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

Comparison of Joint Reliability for various

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

40 dBu = -92.7 dBm @ 770 MHz

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

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

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

Portable In-Building Coverage

Most Public Safety communications systems, today, are designed for portable in-building[4] coverage and the requirement for >95 % reliable coverage. To analyze the impact of requiring portable in building coverage and designing to a 40 dB service contour, several scenarios are presented. The different scenarios involve a given separation from the desired sites. Whether simulcast or multi-cast is used in wide-area systems, the antenna sites must be placed near the service area boundary and directional antennas, directed into the service area, must be used. The impact of simulcast is included to show that the 40 dB service contour must be able to fall outside the edge of the service area in order to meet coverage requirements at the edge of the service area. From the analysis, recommendations are made on how far the 40 dB service contour should extend beyond the service area.

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

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

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

Estimated Performance at 2.5 miles from each site				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver Noise Floor (dBm)	-126.20	-126.20	-124.50	-118.50
Signal at 2.5 miles (dBm)	-72.7	-72.7	-72.7	-72.7
Margin (dB)	53.50	53.50	51.80	45.80
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
Building Loss (dB)	20	20	20	20
Antenna Loss (dBd)	8	8	8	8
Reliability Margin	8.50	8.50	5.80	-2.20
Z	1.0625	1.0625	0.725	-0.275
Single Site Noise Reliability (%)	**85.60%**	**85.60%**	**76.58%**	**39.17%**
Simulcast with 2 sites	97.93%	97.93%	94.51%	62.99%
Simulcast with 3 sites	99.70%	99.70%	98.71%	77.49%
Simulcast with 4 sites	99.96%	99.96%	99.70%	86.30%

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

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

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

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

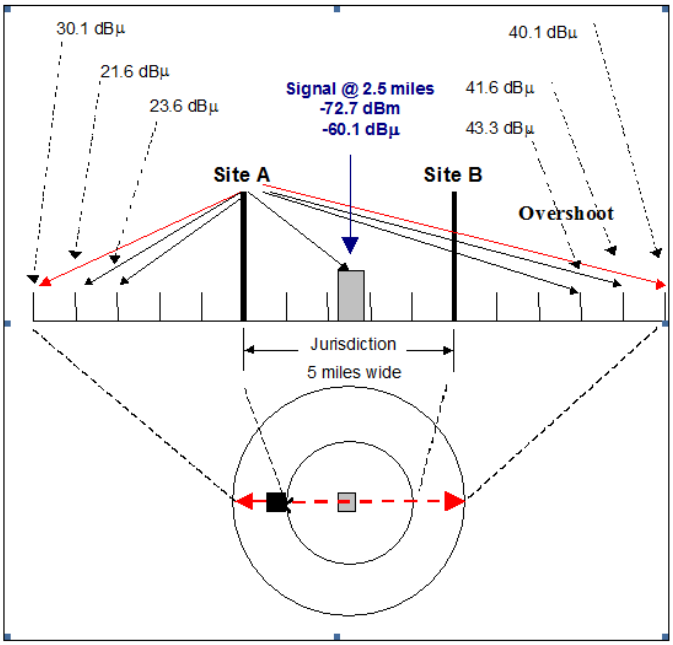


Figure 2 - Field Strength From Left Most Site.

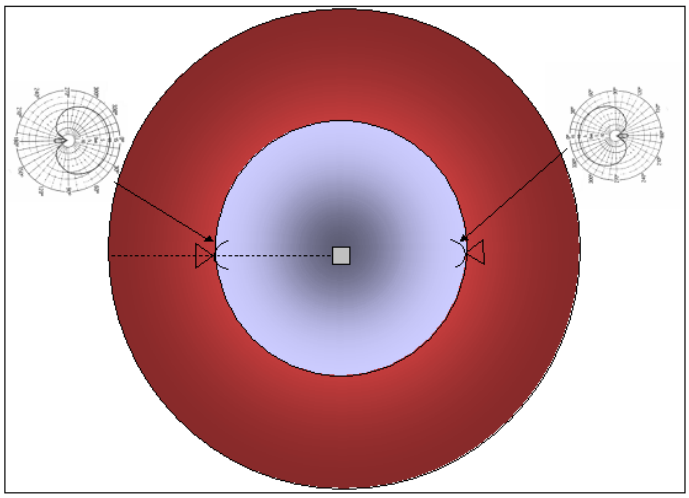


Figure 3 - Antenna Configuration Required To Limit Field Strength Off “Backside”

Figure 2 is for an urbanized area with a jurisdiction defined as a 5 mile circle. To provide the necessary coverage to portables in buildings at the center of the jurisdiction requires that the sites be placed along the edge of the service area and utilize directional antennas oriented toward the center of the service area (Figure 3). In this case, at 5 miles beyond the edge of the service area, the sites would produce a composite field strength of approximately 40 dB□. 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 optomistic due to back scatter off local obstructions in urbanized areas. However, use of antennas on the sides of buildings can assist in achieving better F/B ratios and the initial planning is not precise enough to prohibit using the full 20 dB.

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

Downtilting of antennas, instead of directional antennas, to control the 40 dB□ is not practical, in this scenario. For a 200 foot tall tower, the center of radiation from a 3 dB down-tilt antenna hits the ground at ~ 0.75 miles[5]. The difference in angular discrimination from a 200 foot tall tower at service area boundary at 5 miles and

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

service contour at 10 miles is approximately 0.6 degrees, so ERP is basically the same as ERP toward the horizon. It would not be possible to achieve necessary signal strength at service area boundary and have 40 dB service contour be less than 5 miles away.

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

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

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

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

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

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

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

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

Table 5 - Field Strength Vs. Distance From Site

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

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

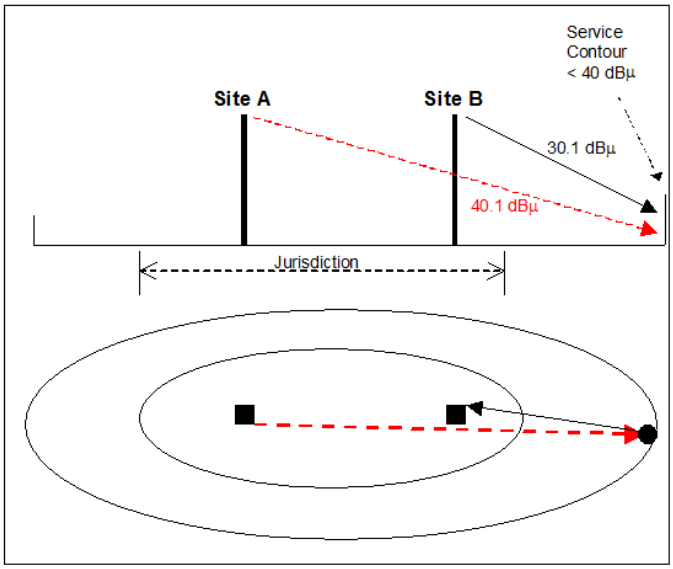


Figure 3a. Scenario 1 on of Use of Table 5

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

Scenario 3: Site B is just inside the Service Area boundary and Service Contour must be <3 Miles outside Service Area boundary. Signal level at Service Contour from Site B is 37.5 dB. Signal level for Site A can be up to 36.4 dB□. (See Appendix B simple method to sum signals expressed in decibels.) The composite power level is 40.0 dB. Therefore, Site A can be ~13 miles from the Service Contour, or ~10 miles inside the Service Area boundary. The coverage perfomance for this example is shown in Table 4, above, for 10 dB building loss typical of rural areas.

Service Contour Extension Recommendation

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

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

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

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

Interfering Contour

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

Co-Channel Interfering Contour Recommendation

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

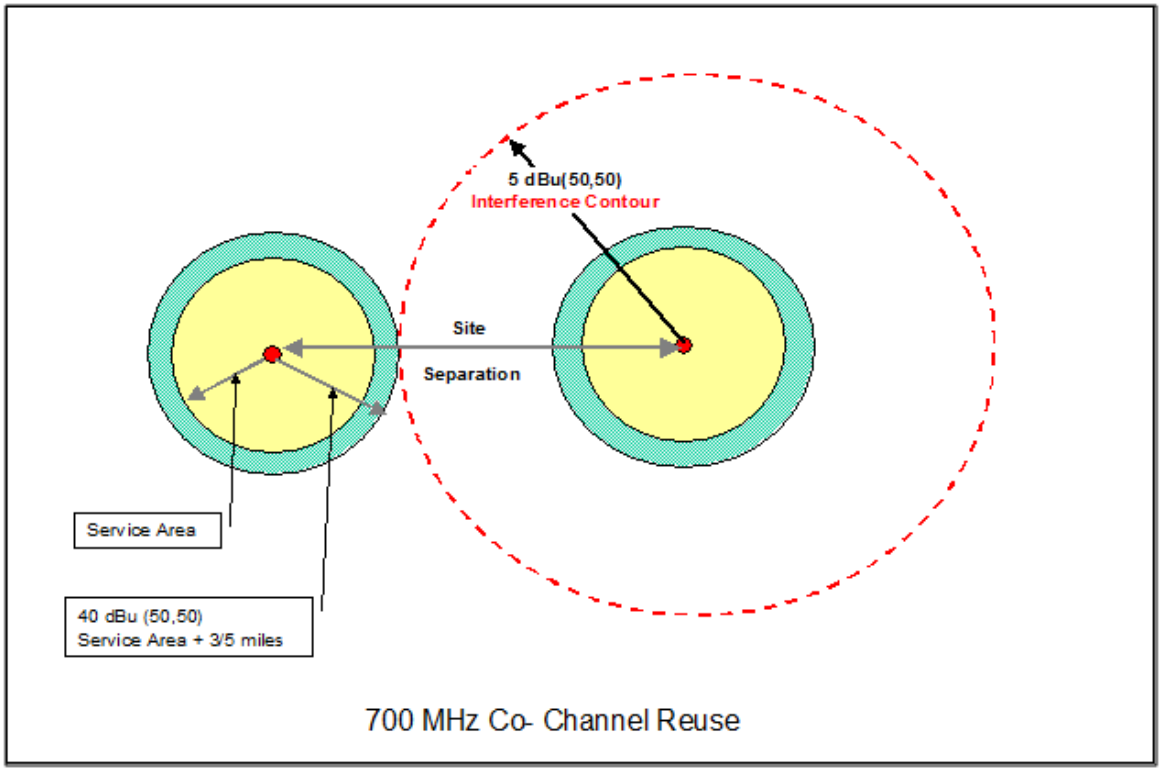


Figure 4 - Co-Channel Reuse Criterion

Adjacent and Alternate Channel Considerations

Adjacent and alternate channels are treated as being noise sources that alter the composite noise floor of a victim receiver. Using the 47 CFR § 90.543 values of ACCP can facilitate the coordination of adjacent and alternate channels. The C/I requirements for <1% interference can be reduced by the value of ACCPR. For example to achieve an X dB C/I for the adjacent channel that is -40 dBc a C/I of [X-40] dB is required. Where the alternate channel ACP value is -60 dBc, then the C/I = [X-60] dB is the goal for assignment(s). There is a compounding of interference energy, as there are numerous sources, i.e. co channel, adjacent channels and alternate channels plus the noise from CMRS 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 (e.g., 6 kHz ENBW). ACP defines the energy in a measured bandwidth that is typically wider than the receiver (e.g., 6.25 kHz channel bandwidth). As a result, the FCC values are optimistic at very close spacing and somewhat pessimistic at wider spacing’s, as the typical receiver filter is less than the channel bandwidth.

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

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

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

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

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

Table 7 - Estimated Receiver Parameters

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

The assumption is that initial spectrum coordination sorts are based on 25 kHz bandwidth channels. This provides the maximum flexibility by using 65 dB ACCPR for all but one possible combination of 6.25 kHz channels within the 25 kHz allotment.

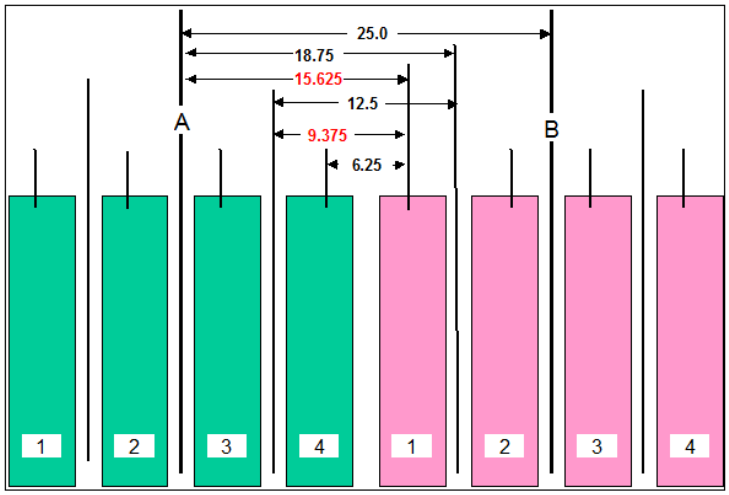


Figure 5, Potential Frequency Separations

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

Table 8 - ACCPR Values For Potential Frequency Separations

All cases meet or exceed the FCC requirement. The most troublesome cases occur where the wider bandwidths are working against a Project 25 Phase 2 narrowband 6.25 kHz channel. This pre-coordination based upon 25 kHz spectrum blocks still works if system designers and frequency coordinators keep this consideration in mind and move the edge 6.25

kHz channels inward away from the edge of the system. This approach allows a constant value of 65 dB ACCPR to be applied across all 25 kHz spectrum blocks regardless of what channel bandwidth is eventually deployed. There will also be additional coordination adjustments when exact system design details and antenna sites are known.

For spectrum blocks spaced farther away, it must be assumed that transmitter filtering, in addition to transmitter performance improvements due to greater frequency separation, will further reduce the ACCPR.

Therefore it is recommended that a consistent value of 65 dB ACCPR be used for the initial coordination of adjacent 25 kHz channel blocks. Rounding to be conservative due to the possibility of multiple sources allows the Adjacent Channel Interfering Contour to be approximately 20 dB above the 40 dB service contour, at 60 dB.

Figure 6 - Adjusted Adjacent 25 kHz Channel Interfering Contour Value

Figure 7 - Example Of Adjacent/Alternate Overlap Criterion

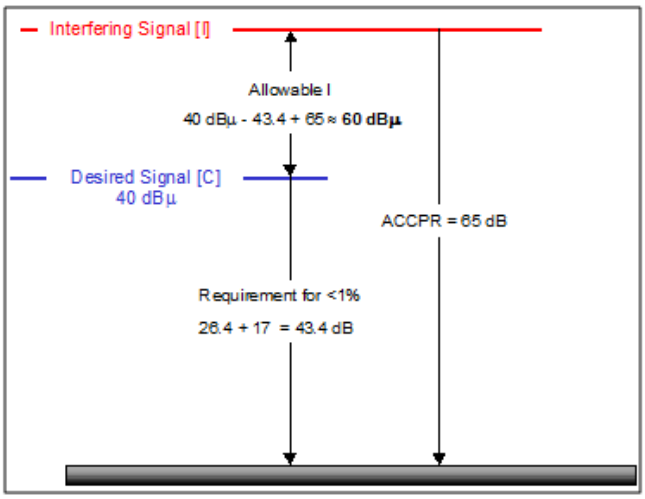
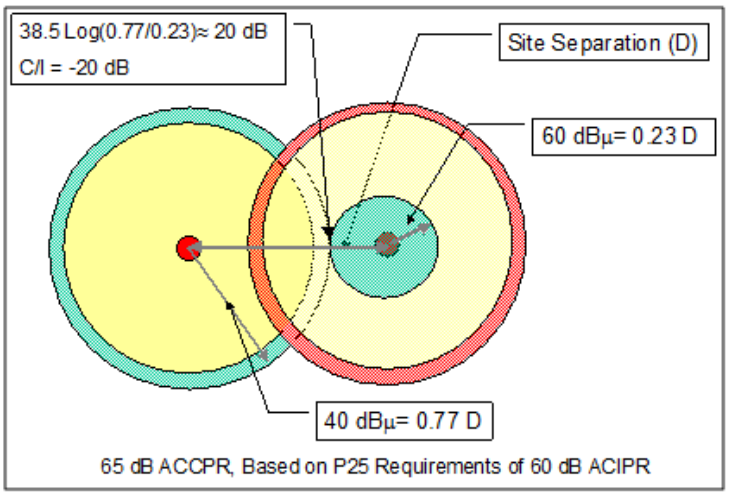


Figure 7 - Example Of Adjacent/Alternate Overlap Criterion



Adjacent Channel Interfering Contour Recommendation

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

Final Detailed Coordination

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

Additional factors that should be considered include:

- Degree of Service Area Overlap
- Different size of Service Areas
- Different ERPs and HAATs
- Actual Terrain and Land Usage
- Differing User Reliability Requirements
- Migration from Project 25 Phase 1 to Phase 2
- Actual ACCP
- Balanced Systems
- Mobiles vs. Portables
- Use of voting
- Use of simulcast
- Radio specifications
- Simplex Operation
- Future unidentified requirements.

Special attention needs to be paid to the use of simplex operation. In this case, an interferer can be on an offset adjacent channel and in extremely close proximity to the victim receiver. This is especially critical in public safety where simplex operations are frequently used at a fire scene or during police operation. This type operation is also quite common in the lower frequency bands. In those cases, evaluation of base-to-base as well as mobile-to-mobile interference should be considered and evaluated.

14.3 Appendix I Carrier to Interference Requirements

There are two different ways that Interference is considered.

- Co Channel
- Adjacent and Alternate Channels

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

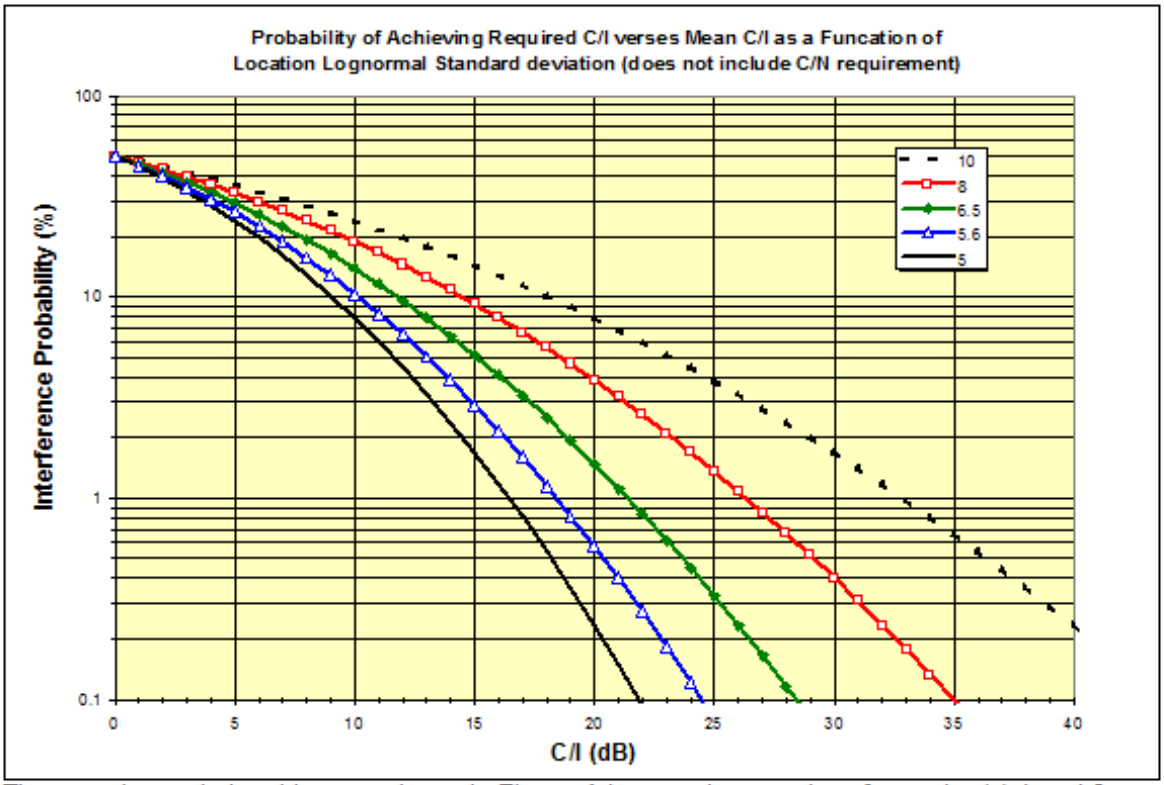
$$\frac{C}{I}\% = \frac{1}{2} \bullet erfc\left(\frac{\frac{C}{I}\text{margin}}{2\sigma}\right) \quad (1)$$

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

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

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

Location Standard Deviation (□) 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



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

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 value for lognormal location standard deviation is reasonable when little information is available. Later when a detailed design is required, additional details and high-resolution terrain and land usage databases will allow a lower value to be used. The TIA recommended value is 5.6 dB. Using 8 dB initially and changing to 5.6 dB provides additional flexibility necessary to complete the final system design.

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

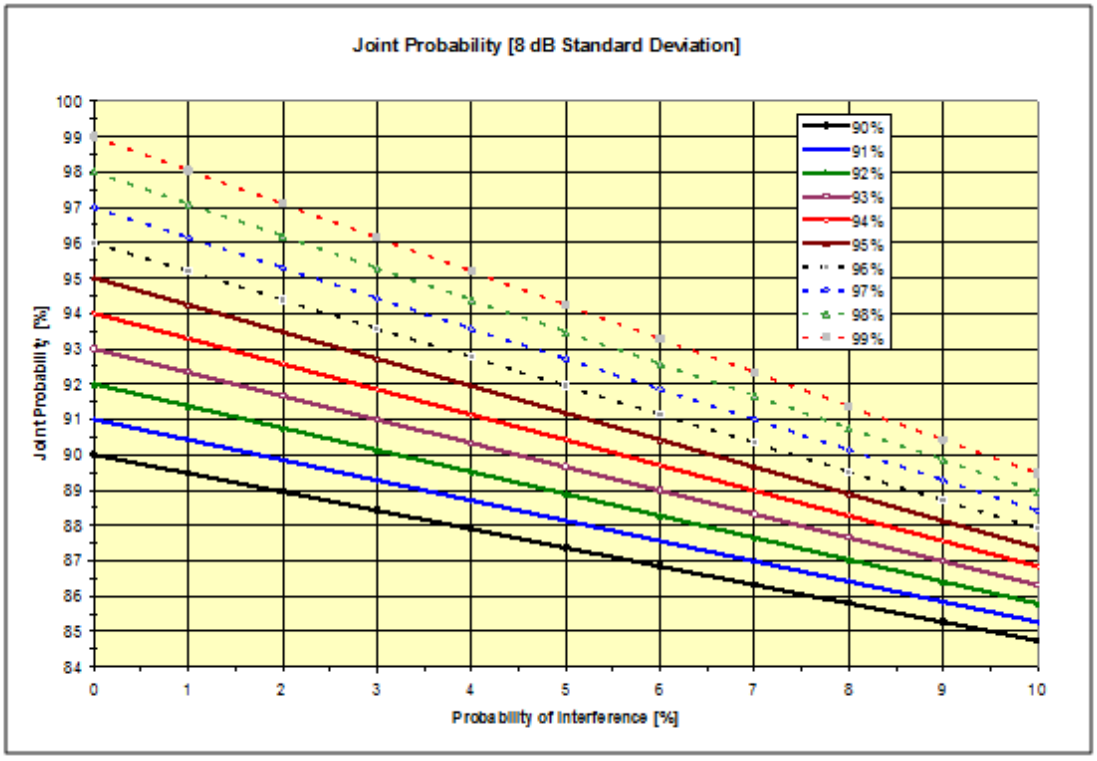
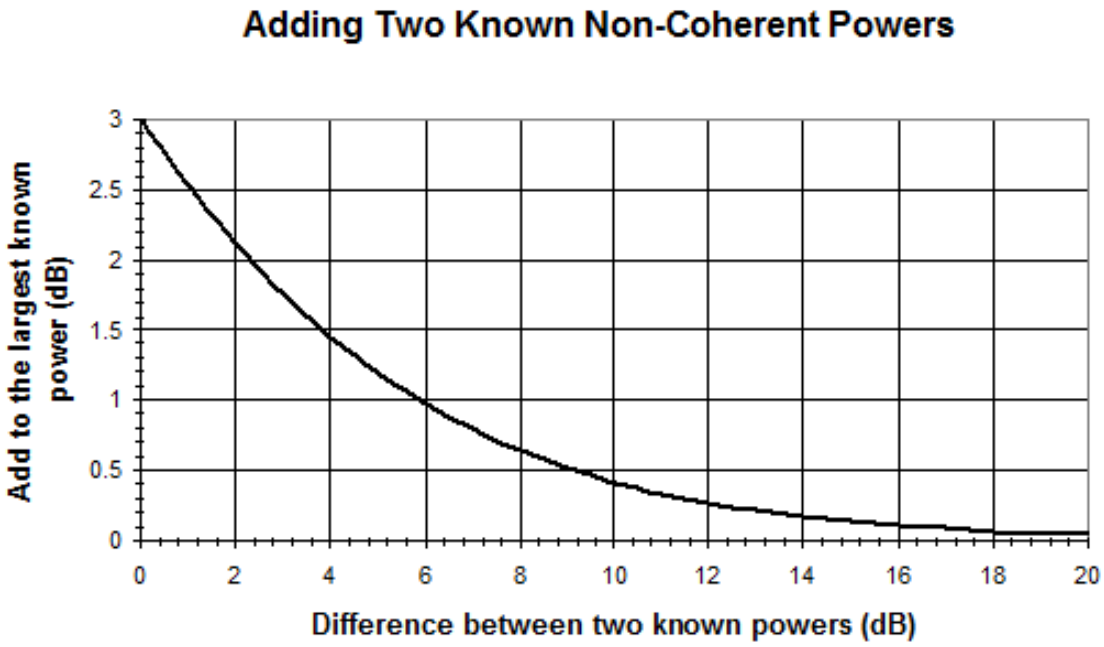


Figure A2 - Effect Of Joint Probability On The Composite Probability

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



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

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

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

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

14.4 Appendix J Low Power Pool Frequencies

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

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

14.5 Appendix K – Dispute Resolution Letters

Dispute Resolution Region 42 Virginia

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

INTRODUCTION

This is a mutually agreed upon Inter-Regional Coordination Procedures Agreement and Dispute Resolution Agreement between Region 42 700 MHz Regional Planning Committee and Region 44.

The following is the specific procedure for inter-regional coordination and dispute resolution which has been agreed upon by Region 17 Kentucky, Region 20 Northern Virginia / Maryland / District of Columbia, Region 28 Eastern Pennsylvania / Delaware, Region 31 North Carolina, Region 36 Western Pennsylvania, Region 39 Tennessee, and Region 44 West Virginia, which will be used by the Regions to coordinate with adjacent Regional Planning Committees.

INTER-REGIONAL COORDINATION PROCEDURE

The coordination procedure will consist of the following steps:

1. An application filing window is opened or the Region announces that it is prepared to begin accepting applications on a first-come/first-served basis.
2. Applications by eligible entities are accepted.
3. An application filing window (if this procedure is being used) is closed after appropriate time interval.
4. Intra-regional review and coordination takes place, including a technical review resulting in assignment of channels.
5. After intra-regional review, a copy of those frequency-specific applications requiring adjacent Region approval, including a definition statement of proposed service area, shall then be forwarded to the adjacent Region(s) for review.[1] This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.

[1] If an applicant's proposed service area or interference contour extends into an adjacent Public Safety Region(s), the application must be approved by the affected Region(s). Service area shall normally be defined as the area included within the geographical boundary of the applicant, plus three (3) miles. Interference contour shall normally be defined as a 5 dBu co-channel contour or a 60 dBu adjacent channel contour. Other definitions of service area or interference shall be justified with an accompanying *Memorandum of Understanding (MOU)* or other application documentation between agencies, i.e. mutual aid agreements.

6. The adjacent Region reviews the application. If the application is approved, a letter of concurrence shall be sent, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days.
7. Where adjacent Region concurrence has been secured, and the channel assignments would result in no change to the Region's currently Commission approved channel assignment matrix. The initiating Region may then advise the applicant(s) that their application may be forwarded to a frequency coordinator for processing and filing with the Commission.
8. Where adjacent Region concurrence has been secured, and the channel assignments would result in a change to the Region's currently Commission approved channel assignment matrix, then the initiating Region shall file with the Commission a *Petition to Amend* their current Regional plan's frequency matrix, reflecting the new channel assignments, with a copy of the *Petition* sent to the adjacent Regional chairperson(s).
9. Upon Commission issuance of an *Order* adopting the amended channel assignment matrix, the initiating Regional chairperson will send a courtesy copy of the *Order* to the adjacent Regional chairperson(s) and may then advise the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

DISPUTE RESOLUTION

The procedure will consist of the following steps should a dispute occur:

If the adjacent Region(s) cannot approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond within 10 (Ten) calendar days via mail, email, or fax. If the applying Region cannot modify the application to satisfy the objections of the adjacent Region then, a working group comprised of representatives of the two Regions shall be convened within thirty (30) calendar days to attempt to resolve the dispute. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons via mail, email, or fax. Findings may include, but not be limited to unconditional concurrence; conditional concurrence contingent upon modification of applicant's technical parameters; or partial or total denial of proposed frequencies due to inability to meet co-channel/adjacent channel interference free protection to existing licensees within the adjacent Region.

If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC)[2], of the National Public Safety Telecommunications Council (NPSTC). Each Region involved in

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

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

CONCLUSION

IN AGREEMENT HERETO, Region 42 and Regions 17, 20, 28, 31, 36, 39, and 44 do by the signing of the document pledge to abide by this Agreement.

Respectfully,

Robert A. DeLauney
700 MHz Region 42 Chair
Radio Systems Engineer
City of Virginia Beach
2508 Princess Anne Road
Virginia Beach, Virginia 23456

Date: 06/11/09

Dispute Resolution Region 44 West Virginia

Inter-Regional Coordination Procedures And Procedures for Resolution of Disputes

That May Arise Under FCC Applications & Approved Plans

I. Coordination Procedures

INTRODUCTION

1. This is a mutually agreed upon Inter-Regional Coordination Procedures Agreement (Agreement) by and between the following 700 MHz Regional Planning Committees, Region 44 (West Virginia) And Region 17 (Kentucky).

II. INTER-REGIONAL COORDINATION AGREEMENT

2. The following is the specific procedure for inter-regional coordination which has been agreed upon by Region 44 and Region 17 and which will be used by the Regions to coordinate with adjacent Regional Planning Committees.

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

b. Applications by eligible entities are accepted.

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

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

e. After intra-regional review, a copy of those frequency-specific applications requiring adjacent Region approval, including a definition statement of proposed service area, shall then be forwarded to the adjacent Region(s) for review.[6] This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.

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

II. Dispute Resolution

[6] If an applicant's proposed service area or interference contour extends into an adjacent Public Safety Region(s), the application must be approved by the affected Region(s). Service area shall normally be defined as the area included within the geographical boundary of the applicant, plus three (3) miles. Interference contour shall normally be defined as a 5 dBu co-channel contour or a 60 dBu adjacent channel contour. Other definitions of service area or interference shall be justified with an accompanying *Memorandum of Understanding (MOU)* or other application documentation between agencies, i.e. mutual aid agreements.

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

(i) Unconditional concurrence;

(ii) Conditional concurrence contingent upon modification of

Applicant's technical parameters; or

(iii) Partial or total denial of proposed frequencies due to inability to meet co-channel/adjacent channel interference free protection to existing licensees within the adjacent Region.

(2) If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to the National Regional Planning Council (NRPC). Each Region involved in the dispute shall include a detailed explanation of its position, including engineering studies and any other technical information deemed relevant. The NRPC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD database. NRPC's decision may support either of the disputing Regions or it may develop a proposal that it deems mutually advantageous to each disputing Region.

g. Where adjacent Region concurrence has been secured, and the channel assignments would result in no change to the Region's currently Commission approved channel assignment matrix. The initiating Region may then advise the applicant(s) that their application may be forwarded to a frequency coordinator for processing and filing with the Commission.

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

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

III. CONCLUSION

3. IN AGREEMENT HERETO, Region 44 and Region 17 do hereunto set their signatures the day and year first above written.

Respectfully,

_____

David W. Saffel

Chair, Region 44

Date: January 24, 2010

_____

Robert L. Stephens

Chairperson Region 17

Date: 31 January 2011

Dispute Resolution Region 33 Ohio

Region 17

Appendix M - Inter-Regional Coordination Procedures and Procedures for Dispute Resolution

Introduction

This is a mutually agreed upon Inter-Regional Coordination Procedure and Dispute Resolution Agreement (Agreement) by and between Region 33 and the neighboring Regional Planning Committees. The purpose is to provide a mechanism to resolve issues that may arise under FCC approved plans.

Inter-Regional Coordination Agreement

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

1. An application filing window is opened or a Region announces that it is prepared to begin accepting applications on a first-come/first-serve basis.
2. Applications by eligible entities are accepted.
3. An application filing window (if this applies) is closed after appropriate time interval.
4. Intra-regional review and coordination takes place, including a technical review resulting in assignment of channels.
5. After intra-regional review, a copy of those frequency specific applications requiring adjacent Region approval, including a definitive statement of proposed service area, shall be forwarded to the adjacent Region(s) for review. This information will be sent to the adjacent Regional chairperson(s) via the CAPRAD system.
6. The adjacent Region will review the application. If approved, a letter of concurrence shall be sent, via CAPRAD, to the initiating Regional chairperson within thirty (30) calendar days.

Dispute Resolution

If the adjacent Region(s) cannot approve an application request, the adjacent Region shall document the reasons for partial or non-concurrence and respond to the initiating Region within ten (10) calendar days via e-mail. If the initiating Region cannot modify the application to satisfy the objections of the adjacent Region then, a working group comprised of representatives of the Regions involved shall convene within thirty (30) calendar days to attempt to resolve the dispute. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons via e-mail or the CAPRAD system. Findings may include, but are not limited to:

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

If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC), of the National Public Safety Telecommunications Council (NPSTC). Each Region involved in the dispute shall include a detailed explanation of its position, including engineering studies and any other technical information deemed relevant. The NPOC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD system. The NPOC's decision may support any of the disputing Regions or it may develop a proposal that it deems mutually advantageous to the disputing Regions.

1. Where adjacent Region concurrence has been secured, and the channel assignments would result in no change to the Region's current FCC approved channel assignment matrix, then the initiating Region may the applicant(s) that their application may be forwarded to a frequency coordinator for processing and filing with the FCC
2. Where adjacent Region concurrence has been secured, and the channel assignments result in a change to the Region's current FCC approved channel assignment matrix, then the initiating Region shall file to the FCC a "Petition to Amend" their current Regional plan's frequency matrix. The petition shall reflect the new channel assignments and copy of the petition shall be sent to the adjacent Regional chairperson(s).
3. Upon FCC issuance of an "Order" adopting the amended channel assignment matrix, the initiating Regional chairperson will send a courtesy copy of the "Order" to the adjacent Regional chairperson(s) and may the advise the applicant(s) that they may forward their application(s) to the frequency coordinator for processing and filing with the FCC.

Conclusion

IN AGREEMENT HERETO, Regions [17 and 33] do hereunto set their signatures the day and year first above written.

Respectfully,

Region 17 Bob Stapleton Date 11-20-2008

Region 33 Paul M Mayer Date 11-20-2008

Dispute Resolution Region 14 Indiana

25 APPENDIX H - DISPUTE RESOLUTION PROCESS
Inter-Regional Coordination Procedures
and
Procedures for Resolution of Disputes
That May Arise Under FCC Approved Plans

Coordination Procedures

1. INTRODUCTION

This is a mutually agreed upon Inter-Regional Coordination Procedures Agreement (Agreement) by and between the Region 14 (Indiana), Region 13 (Illinois), Region 17 (Kentucky), Region 21 (Michigan), Region 33 (Ohio), and Region 54 (Southern Lake Michigan) 700 MHz Regional Planning Committees

2. INTER-REGIONAL COORDINATION AGREEMENT

2.1. The following is the specific procedure for inter-regional coordination which has been agreed upon by Regions 13, 14, 17, 21, 33, and 54, and which will be used by the Regions to coordinate with adjacent Regional Planning Committees.

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

2.3. Applications by eligible entities are accepted.

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

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

2.6. After intra-regional review, a copy of those frequency-specific applications requiring adjacent Region approval, including a definition statement of proposed service area, shall then be forwarded to the adjacent Region(s) for review.[4] This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.

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

[4] If an applicant's proposed service area or interference contour extends into an adjacent Public Safety Region(s), the application must be approved by the affected Region(s). Service area shall normally be defined as the area included within the geographical boundary of the applicant, plus three (3) miles. Interference contour shall normally be defined as a 5 dBu co-channel contour or a 60 dBu adjacent channel contour. Other definitions of service area or interference shall be justified with an accompanying *Memorandum of Understanding (MOU)* or other application documentation between agencies, i.e. mutual aid agreements.

3. Dispute Resolution

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

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

3.1. If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC)[5], of the National Public Safety Telecommunications Council. Each Region involved in the dispute shall include a detailed explanation of its position, including engineering studies and any other technical information deemed relevant. The NPOC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD database. The NPOC's decision may support either of the disputing Regions or it may develop a proposal that it deems mutually advantageous to each disputing Region.

3.2. Where adjacent Region concurrence has been secured, and the channel assignments would result in no change to the Region's currently Commission approved channel assignment matrix. The initiating Region may then advise the applicant(s) that their application may be forwarded to a frequency coordinator for processing and filing with the Commission.

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

[5] The Regional Plan Oversight Committee (RPOC) is a committee within the National Public Safety Telecommunications Council (NPSTC) established to arbitrate disputes between 700 MHz Regions that cannot be resolved by the impacted Regions.

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

4 CONCLUSION

IN AGREEMENT HERETO, Regions 14, and 17 do hereunto set their signatures the day and year first above written.

Respectfully,

Signed: _____
Region 14 700 MHz RPC Chairman

Signed: _____
Region 17 700 MHz RPC Chairman

Date: 15 June 2009

Dispute Resolution Region 13 Illinois

Inter-Regional Coordinations Procedures and Procedures for Resolution of Disputes that may arise under FCC Approved Plans

---

I. Introduction

This is a mutually agreed upon Inter-Regional Coordination Procedures Agreement (Agreement) by and between the following 700 MHz Regional Planning Committees:

Region 13

Region 17

II. Inter-Regional Coordination Agreement

The following is the specific procedures for inter-Regional coordination which has been agreed upon by Region 13 and Region 17 which will be used by the Regions to coordinate with adjacent Regional Planning Committees.

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

B. Applications by eligible entities (as defined within the Plan) are accepted.

C. An application filing window is closed after an appropriate time interval.

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

E. After intra-Regional review, a copy of the frequency specific applications requiring adjacent Region approval, including a definition statement of proposed service area, shall then be forwarded to the adjacent Region(s) for review. If an applicant's proposed service area extends into an adjacent Public Safety Region(s), the affected Region must approve the application. Service area shall normally be defined as the area included within the geographical boundary of the applicant, plus three miles. Other definitions of service area shall be justified with an accompanying Memorandum of Understanding (MOU) or other applicable documentation between agencies, i.e., mutual aid agreements. This information will be sent to the Chairperson of the adjacent Region(s) using the CAPRAD database.

F. The adjacent Region shall review the application. If the application is approved, a letter of concurrence will be sent, via the CAPRAD database, to the initiating Region Chairperson within thirty (30) calendar days.

Dispute Resolution

(1) If an adjacent Region cannot approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond within ten (10) calendar days via email. If the applying Region cannot modify the application to satisfy the objectives of the adjacent Region then, a working group comprised of representatives of the two regions shall be convened within thirty (30) calendar days to attempt to resolve the dispute. The working group shall then report its findings within thirty (30) calendar days to the Regional Chairpersons via email (CAPRAD database). Findings may include, but are not limited to:

a. Unconditional concurrence;

b. Conditional concurrence contingent upon modification of Applicant's technical parameters; or

c. Partial or total denial of proposed frequencies due to inability to provide co-channel/adjacent channel interference-free protection to existing license(s) with the adjacent Region.

(2) If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC), of the National Public Safety Telecommunications Council. Each region involved in the dispute shall include a detailed explanation of its position, including engineering studies and any other technical information deemed relevant. The NPOC will, within thirty (30) calendar days, reports its recommendation(s) to the Regional Chairpersons via the CAPRAD database. The NPOC's decision may support either of the disputing Regions or it may develop a proposal that it deems mutually advantageous to each disputing Region.

G. Where adjacent Region concurrence has been secured, and the channel assignments would result in no change to the Region's currently Commission approved channel assignment matrix, the initiating Region shall forward the application to the appropriate frequency coordinator (previously selected by the applicant) for processing and filing with the Commission.

H. Where the adjacent Region concurrence has been secured, and the channel

assignments would result in a change to the Region's currently Commission approved channel assignment matrix; the resulting Region shall file with the Commission a *Petition to Amend* their current Regional plan's frequency matrix reflecting the new channel assignments. A copy of the *Petition* shall be sent to the adjacent Regional Chairperson(s).

I. Upon Commission issuance of an *Order* adopting the amended channel assignment matrix, the initiating Regional Chairperson will send a courtesy copy of the *Order* to the adjacent Regional Chairperson(s). The application shall then be forwarded to the appropriate frequency coordinator for processing and filing with the Commission.

III. Conclusion

In agreement hereto, Region 13 and Region 17 do hereunto set their signatures the day and year first above written.

Respectfully,

Gary Cochran, Region 13 Chairperson

Robert L. Stephens, Region 17 Chairperson

Date: 3/26/07

Dispute Resolution Region 24 Missouri

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

I. Coordination Procedures

I. INTRODUCTION

1. This is a mutually agreed upon Inter-Regional Coordination Procedures Agreement (Agreement) by and between the following 700 MHz Regional Planning Committees, Region 17 (Kentucky) and Region 24 (Missouri)

II. INTER-REGIONAL COORDINATION AGREEMENT

2. The following is the specific procedure for inter-regional coordination which has been agreed upon by Region 17 and Region 24, and which will be used by the Regions to coordinate with adjacent Regional Planning Committees.

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

b. Applications by eligible entities are accepted.

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

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

e. After intra-regional review, a copy of those frequency-specific applications requiring adjacent Region approval, including a definition statement of proposed

service area, shall then be forwarded to the adjacent Region(s) for review.[1] This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.

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

II. Dispute Resolution

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

(i) Unconditional concurrence;

(ii) Conditional concurrence contingent upon modification of applicant's technical parameters; or

(iii) Partial or total denial of proposed frequencies due to inability to meet co-channel/adjacent channel interference free protection to existing licensees within the adjacent Region.

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

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

III. CONCLUSION

3. IN AGREEMENT HERETO, Region 17 and Region 24 do hereunto set their signatures the day and year first above written.

Respectfully,

Robert L. Stephens
Chairperson Region 17

Date: 19 October 2010

Steve Devine
Chair, Region 24

Date: 10/19/10

Dispute Resolution Region 39 Tennessee

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

INTRODUCTION

This is a mutually agreed upon Inter-Regional Coordination Procedures Agreement and Dispute Resolution Agreement between Region 39 700 MHz Regional Planning Committee and Region 17, Kentucky

The following is the specific procedure for inter-Regional coordination and dispute resolution; which has been agreed upon by Regions 39 Tennessee and Region 1 Alabama, Region 4 Arkansas, Region 10 Georgia, Region 13 Illinois, Region 17 Kentucky, Region 23 Mississippi, Region 24 Missouri, Region 31 North Carolina, Region 37 South Carolina, Region 42 Virginia, and Region 44 West Virginia, which will be used by the Region 39 to coordinate with adjacent Regional Planning Committees.

INTER-REGIONAL COORDINATION PROCEDURE

The coordination procedure will consist of the following steps:

1. An application-filing window is opened or the Region announces that it is prepared to begin accepting applications on a first-come/first-served basis.
2. Applications by eligible entities are accepted.
3. An application-filing window (if this procedure is being used) is closed after appropriate time interval.
4. Intra-Regional review and coordination takes place, including a technical review resulting in assignment of channels.
5. After intra-Regional review, a copy of those frequency-specific applications requiring adjacent Region approval, including a definition statement of proposed service area, shall then be forwarded to the adjacent Region(s) for review. [1] This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.

---

[1] If an applicant's proposed service area extends into an adjacent Public Safety Region (s), the affected Region(s) must approve the application. Service area shall normally be defined as the area included within the geographical boundary of the applicant, plus three (3) miles. Other definitions of service area shall be justified with an accompanying *Memorandum of Understanding (MOU)* or other application documentation between agencies, i.e. mutual aid agreements.

6. The adjacent Region reviews the application. If the application is approved, a letter of concurrence shall be sent, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days.
7. Where adjacent Region concurrence has been secured, and the channel assignments would result in no change to the Region's currently Commission approved channel assignment matrix. The initiating Region may then advise the applicant(s) that their application may be forwarded to a frequency coordinator for processing and filing with the Commission.
8. Where adjacent Region concurrence has been secured, and the channel assignments would result in a change to the Region's currently Commission approved channel assignment matrix, then the initiating Region shall file with the Commission a *Petition to Amend* their current Regional plan's frequency matrix, reflecting the new channel assignments, with a copy of the *Petition* sent to the adjacent Regional chairperson(s).
9. Upon Commission issuance of an *Order* adopting the amended channel assignment matrix, the initiating Regional chairperson will send a courtesy copy of the *Order* to the adjacent Regional chairperson(s) and may then advise the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

Dispute Resolution

The procedure will consist of the following steps should a dispute occur:

If the adjacent Region(s) cannot approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond within ten (10) calendar days via mail, email or fax. If the applying Region cannot modify the application to satisfy the objections of the adjacent Region then, a working group comprised of representatives of the two Regions shall be convened within thirty (30) calendar days to attempt to resolve the dispute. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons via email, mail or fax. Findings may include, but not be limited to unconditional concurrence; conditional concurrence contingent upon modification of applicant's technical parameters; or

partial or total denial of proposed frequencies due to inability to meet co-channel/adjacent channel interference free protection to existing licensees within the adjacent Region.

If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC), of the National Public Safety Telecommunications Council (NPSTC). Each Region involved in the dispute shall include a detailed explanation of its position, including engineering studies and any other technical information deemed relevant. The NPOC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD database. The NPOC's decision may support either of the disputing Regions or it may develop a proposal that it deems mutually advantageous to each disputing Region.

CONCLUSION

In agreement hereto, Regions 39 and Region 17 by the signing of the document pledge to abide by this Agreement.

Respectfully,

[all signatories to agreement]

Dispute Resolution Region 4 Arkansas

Appendix G Inter-Regional Dispute Resolution

The procedure will consist of the following steps should a dispute occur:

If the adjacent Region(s) cannot approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond within ten (10) calendar days via mail, email or fax. If the applying Region cannot modify the application to satisfy the objections of the adjacent Region then, a working group comprised of representatives of the two Regions shall be convened within thirty (30) calendar days to attempt to resolve the dispute. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons via email, mail or fax. Findings may include, but not be limited to unconditional concurrence; conditional concurrence contingent upon modification of applicant's technical parameters; or partial or total denial of proposed frequencies due to inability to meet co-channel/adjacent channel interference free protection to existing licensees within the adjacent Region.

If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC), of the National Regional Planning Council (NRPC). Each Region involved in the dispute shall include a detailed explanation of its position, including engineering studies and any other technical information deemed relevant. The NPOC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD database. The NPOC's decision may support either of the disputing Regions or it may develop a proposal that it deems mutually advantageous to each disputing Region.

CONCLUSION

In agreement hereto, Regions 4 and Region 17 do by the signing of the document pledge to abide by this Agreement.

Respectfully, [all signatories to agreement]

JM Rowe Chair, Region 4 700 MHz RPC

Edwin J Stephens Co-Chair Region 17 700/800 MHz RPC

_____

_____ Date: 9 MARCH 2010