

National Public Safety Planning **RECEIVED**
Advisory Committee

JAN 27 1993

NPSPAC REGION 24 MISSOURI

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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PR 93-131

January 20, 1993
Ms. Donna Searcy
Secretary
Federal Communications Commission
Washington, DC 20554

Dear Ms. Searcy:

As chairperson of the Region 24 National Safety Planning Advisory Committee (NPSPAC), I am proud to present for your consideration our committee's Frequency Utilization Plan for the State of Missouri formulated in accordance with FCC Dockets 87-112 and 87-359.

On September 28, 1989 the Region 24 convenor held an organizational meeting at the Missouri State Highway Patrol Headquarters, Jefferson City Missouri. 81 persons from various entities and disciplines, as well as vendors, attended. (See Appendix A).

Subsequent meetings (as explained in the plan) addressed a change in the chairperson and reduction of participating members to the committee of record. (See Appendix H and page 23 of plan).

As chairperson of Region 24, I compiled all the inputs from the Regional Planning Committee Members and developed the final draft.

Sincerely,



John R. Gerke, Chairperson
Region 24, State of Missouri

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**NPSPAC Region 24
Missouri
800 mhz Plan**

January 20, 1993



Chairman:

**John R. Gerke
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ITEMS TO CHECK PERTAINING THE PLAN
REGION 24, Missouri

- 1) Cover page - identifying the region
- 2) Chairperson - name, address, phone number and signature
See page 23 and under cover page
- 3) Committee members - name, organizational affiliation, address, phone numbers. See page APPENDIX H
- 4) Summary of major elements of the plan. See page I and II
- 5) General description of how spectrum is allotted among users. See page 12
- 6) Explanation of how the requirements of all eligibles are considered and met. See page 21
- 7) Explanation of how eligibles are prioritized in areas where not all eligibles may receive licenses.
See page 72
- 8) Explanation of how the plan has been coordinated with adjacent regions. See page 12 and APPENDIX I
- 9) Description of how the plan puts spectrum to best possible use by
 - I. requiring system design with minimum coverage areas (see page 9)
 - II. Assigning frequencies so that maximum frequency reuse and offset channel use may be made (see page 12)

- III. making use of trunking (see page 8 and 17)
- IV requiring small entities with minimal requirements to join together on a single system where possible (see page 8)
- 10) Explanation of how interoperability channels are managed (see page)
- 11) "Slow Growth" language. See Page 19.
- 12) Does the plan refer to **Give-Back** frequencies? If yes, give page number 11.
- 13) Use the APCO sorting program. See page 12
- 14) Appeal Process. See page 22
- 15) Does the plan provide for regional mutual aid channels, in addition to the five (5) common channels. If so, NO are there guards bands for these channels.
- 16) Similar to the Generic Plan describe the formation of the committee;
- I. Advertising - copy should be attached to legal notice, letters to the industry, etc.
- II. Who could vote? and what procedure was used after first meeting? see page 3.
- III. How was the final plan adopted. Was it by members attending a meeting or mail ballot? ballot

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page 1

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1.0 SCOPE

1.1 Introduction

In December of 1983, the United States Congress directed the Federal Communications Commission (FCC) to establish a plan to ensure that the communications needs of state and local public safety authorities would be met. By their regular means of initiation, the FCC began the process of developing such a plan. Through their efforts, and the efforts of the National Public Safety Planning Advisory Committee (NPSPAC) the plan was begun.

The National Public Safety Planning Advisory Committee provided an opportunity for the public safety community and other interested members of the public to participate in an overall spectrum management approach by recommending policy guidelines, technical standards, and procedures to satisfy public safety needs for the foreseeable future. After consideration of NPSPAC's Final Report and comments filed in Docket No. 87-112, a Report and Order was released by the FCC in December 1987, which established a structure for the National Plan that consists of guidelines for the development of regional plans.

The National Plan provides guidelines for the development of regional plans. The particulars of this plan are found in FCC 87-359, which contains the required steps and contents for regional plan development. It is on this document that this plan is developed.

1.2 Purpose

Public safety communications has, for many years, been inadequate throughout the United States. This is as true for Missouri as it is for any other state. Many, if not all, public safety radio users are constantly bombarded with outside interference, noise, and over crowding. It is with these problems in mind that this plan was developed.

This regional plan was developed with the objective of assuring all levels of public safety/public service agencies that radio communications in the near and distant future will not suffer from the problems of the past. The allocation of frequencies was done in as equitable a way as possible. The goal was to supply a pool of frequencies for each county and a pool for state agency use with adequate reserve allocations for future needs in all areas, and a method to appeal initial allocations based on need.

The National Plan, as developed by NPSPAC, was followed very closely in all considerations for frequency allocation, re-use, turn back, regional interoperability, spectrum requirements and adjacent region operations. This plan should provide the

flexibility to accommodate the growth and changes which are bound to occur in public safety and public service communications operations long into the future.

2.0 AUTHORITY

2.1 Regional Planning Committee

The development of the Public-Safety Radio Communications Plan for Region 24, the State of Missouri, has followed the requirements of the FCC's Report and Order as issued in the matter of General Docket 87-112.

In accordance with the FCC's Report and Order 87-112, the Associated Public-Safety Communications Officers Inc. (APCO) recommended to the Commission the appointment of a "Convenor" for Missouri Region 24. The Convenor served as the coordinator for the assembly and formation of the planning committee.

Participants in the formation of the Regional Planning Committee represent interested parties from both the Public Safety and Special Emergency Radio Services. A total of 81 individuals convened to participate in the development process. The list herein contains the names, organizational affiliations, and phone numbers of all individuals that convened. (Appendix A)

The committee was selected by attendance at the planning meetings. Each member of the Committee representing an eligible licensee under the Public Safety Radio Services and the Special Emergency Radio Services was entitled to one vote in all Committee matters. Except as may be provided elsewhere in the Plan, the majority of those present at a scheduled meeting constituted a majority for all business. Only the final approval of the plan prior to submission to the FCC required a vote from more than would be in attendance at a regular meeting. In this case the vote was conducted by mail ballot sent to all those who had participated in the planning process. This way, the finished plan was reviewed and accepted by the widest, within reason, group of public safety/public service users.

2.2 Planning Committee Formation

The process of forming the Planning Committee was conducted in the following steps:

Presentations concerning the requirements for a regional planning committee were presented and discussed at state organization meetings. At each presentation there was an opportunity for persons to place themselves and/or their agency on the mailing list.

Letters of announcement were mailed to each major state agency radio users, those placed on the mailing list, as well as to state

organizations composed of local government level public safety/public service users. Letters were also sent to all members of the Missouri Chapter of APCO.

This first meeting was held at the Missouri State Highway Patrol Headquarters in Jefferson City, Missouri - a public facility. The Chairperson, as well as a secretary were elected at this meeting. An interim committee of 33 persons (Appendix B) was created to conduct business until the planning committee was established. Committee membership was left open to any person or agency which may or may not have been notified or decided to join the committee later.

The planning Committee of 18 persons (Appendix C), including the Chairperson and the secretary was established at a second meeting held at the same site. This meeting was attended by 22 of the 33 interim committee members (Appendix D).

Both the original Chairperson and the original Secretary stepped down at later dates. A third meeting was called at the same site, attended by 17 persons, (Appendix E). A new Chairperson was elected at this meeting. Later, in compliance with the provisions of this plan (pgh. 2.2.c), 5 additional persons were admitted to the committee. (Appendix F). The Planning Committee by this time, was comprised of 23 members, including the Chairperson. (Appendix G). On December 2, 1992 these 22 members were solicited by means of certified mail to ascertain their intent to remain as bonafide members of the planning committee. The result is that the Committee of Record is comprised of 18 members, new and old. (Appendix H)

Vendors participation was encouraged , but vendors were not allowed a vote.

2.3 National Interrelationships

The Regional Plan is in conformity with the National Plan. If there is a conflict between the two plans, the National Plan will govern. It is expected that Regional Plans for other areas of the country may differ from this plan due to the broad differences in circumstance, geography, and population density. By officially sanctioning this plan the Federal Communications Commission agrees to its conformity to the National Plan. Nothing in the Plan is to interfere with the proper functions and duties of the organizations appointed by the FCC for frequency coordination in the Private Land Mobile Radio Services, but rather it provides procedures that are the consensus of the Public Safety Radio Services and Special Emergency Radio Service user agencies in this Region. If there is a perceived conflict then the judgment of the FCC will prevail.

2.4 Federal Interoperability

Interoperability between the Federal, State and Local Governments during both daily and disaster operations will primarily take place on the five common channels identified in the National Plan. Additionally, through the use of S-160 or equivalent agreements, a licensee may permit Federal use of a non-Federal communications system. Such use, on other than the five identified common channels, is to be in full compliance with FCC requirements for government use of non-government frequencies (Title 47 CFR, sec. 2.103). It is permissible for a non-Federal government licensee to increase channel requirements to account for 2-10 percent increase in mobile units, dependent on the amount of Federal Government Agencies involvement in its area, provided that written documentation from Federal agencies supports at least that number of increased units.

2.5 Regional Review Committee

Upon approval of this Plan by the Federal Communications Commission, a Region Review Committee will be established for the review of applications which do not fall within the stated guidelines provided for in this plan, or for the settlement of disputes concerning this plan and/or its application.

This committee shall consist of the Local APCO Frequency Advisor for this region, one representative from the Police, Fire and EMS services, and a minimum representation from other eligibles is also welcome. This committee and its composition will be assured by the Missouri APCO chapter and other Public Safety organizations. Membership on this committee will be solicited on an annual basis. Since this committee will probably not have regular business, it will be up to the Local APCO Frequency Advisor to notify the committee of problems, conflicts, or when it becomes apparent that spectrum demands will outpace available spectrum. Each member of the committee shall be furnished a copy of this plan upon their appointment or election to the committee.

This committee will serve as a referee to resolve disputes, arbitrate in matters involving spectrum availability versus spectrum for which applications have been filed, and will be the final step in contested applications within Missouri Region 24. The committee will be a standing, open committee, in which each service or discipline will have one vote.

Plan updates shall be accomplished by this committee. All changes or updates to the plan shall be first agreed upon by this committee and then submitted to the FCC for their review and consideration. When approved all changes shall be added to the plan with the appropriate documentation of approval.

This committee shall meet at least once annually to review the

implementation of the plan. This review shall consist of examination of any and all license activity.

3.0 SPECTRUM UTILIZATION

This portion of the Plan provides a basis for proper spectrum utilization. Its purpose is to guide the Local APCO Frequency Advisor and/or the Regional Review Committee in their task of evaluating the implementation of this plan within this Region.

3.1 Region Defined

Region 24 is the State of Missouri. This region is the result of definition by the Federal Communications Commission as a result of recommendations made in the National Public Safety Planning Advisory Committee (NPSPAC) plan as submitted and approved and contained in Docket 87-112. For purposes of this plan Region 24 shall be defined as all the lands and waters contained within the boundaries of the State of Missouri.

3.2 Region Profile (Demographic Information)

The purpose of this section is to provide the basis for the assignment of frequencies, and their re-use. Since the frequency allocation formula used is based on population within a county, it is necessary to provide this information within this plan. Below is the data used in the determination of frequency allocations.

3.2.1 Geographical Description

There are 115 counties in the State of Missouri. This includes the City of St. Louis that is a county by statute. Therefore 'St. Louis County' and the 'City of St. Louis' are independent counties.

The total land mass of the State is 69,697 square miles. The largest county is Texas County, with a total of 1180 square miles.

3.2.2 State of Missouri Population and Expected Growth Percentage.

The population of the State (1990 Census) is 5,117,073. Some 60% of the populace resides in 14 of the 115 counties. Based on the Missouri State Demographer's calculations, the total population for the State is expected to increase to 5,453,441 (1.1%) by the year 2010. (See Appendix I for Census & Demographer's data).

The population per square mile (1990 & projected) is somewhat sparse in some areas of the State. Worth County, in the year 2010, is predicted to have 6.5 persons per square mile. St. Louis County is predicted to have 2050 persons per square mile. This presents some problems in area coverage for radio systems in that the entire land area of any given jurisdiction must be covered. All of these conditions have been taken into consideration in the allocation plan.

3.3 Usage Guidelines

All systems operating within the Region having five or more channels will be required to be trunked. Those systems having four or less channels may be conventional or trunked.

The FCC, in its Report and Order states, "Exceptions will be permitted only when a substantial showing is made that alternative technology would be at least as efficient as trunking or that trunking would not meet operational requirements. Exceptions will not be granted routinely, however, and strong evidence showing why trunking is unacceptable must be presented in support of any request for exception."

Systems of four or less channels operating in the conventional mode who do not meet FCC loading standards will be required to share the frequency on a non-exclusive basis.

Public Safety communications at the state level, as it impacts the Region, will be reviewed by the Committee. State-wide public safety agencies will submit their communications plans for impact approval if they utilize communications systems within the Region and those portions of such systems must be compatible with the Regional Plan.

The next level of communication coverage will be a county/multiple municipality area. Those systems that are designed to provide area communication coverage must demonstrate their need to require such wide area coverage.

This would apply in a situation such as a city requesting coverage of an entire county. Communication coverage beyond the bounds of a jurisdictional area of concern cannot be tolerated unless it is critical to the protection of life and property. If the 800 MHz trunked radio technology is utilized, the system design must include as many county/multiple municipality government public safety and public service radio users as can be managed technically.

The county/multiple municipality agency(ies), depending upon systems loading and the need for multiple systems within an area, must provide intercommunications between area-wide systems. In a multi-agency environment, a lead agency using the 800 MHz spectrum, which is an agency or organization having primary response obligations in the geographic area, shall be responsible for coordinating the implementation the Common Channels in this band as mandated by the National Plan. Such implementation must be reviewed and approved by the Local APCO Frequency Advisor, and at his/her discretion, the Regional Review Committee.

Municipal terminology often differs. In order to provide a title for the next levels of communications the term 'Municipality' will

be used to define the level below county-wide. 'Municipal' communications for public safety and public services purposes must provide only the communications needed within its boundaries. However, if the total number of radios in service does not reach minimum loading criteria for a trunked system, that City or Township must consider utilizing the next higher system level if 800 MHz trunked radio is available in the area. As those higher level systems reach capacity, the smaller system communicators in public safety and public service must then consider uniting their communications efforts to formulate one large system or forfeit use of the limited 800 MHz spectrum.

Where smaller conventional 800 MHz needs are requested, those frequencies to be utilized must not interfere with the region's trunked systems. The 800 MHz trunked radio system is to be considered the higher technology at this time and in greater compliance with FCC guidelines. The amount of interference that can be tolerated depends on the service affected. Personal life and property protection shall receive the highest priority and disruptive interference with communications involved in these services in an area shall not be tolerated. Any co-channel interference within an authorized area of coverage will be examined on a case by case basis by the Regional Review Committee.

3.4 Technical Design Requirements For Licensing

3.4.1 Definition of Coverage Area or Area of Jurisdiction

The coverage area shall be that area for which a system is intended to cover with a received signal strength of greater than 40 dBu. This area shall normally represent the boundaries of the County or the incorporated municipality which is applying for license. In the case of regional or area-wide, multi-jurisdictional systems, the coverage shall be that area of all jurisdictions participating in the system combined.

3.4.2 System Coverage Limitations

System coverage shall be limited to the coverage area defined as listed above plus no more than five (5) additional miles in all directions extending from said boundaries of definition. This limitation shall assure maximum frequency reuse. The only exception to this rule shall be those applicants wishing to offer service or system use to areas outside of their jurisdictional boundaries. In these situations the applicant shall provide a proposal of said service to the Local APCO Frequency Advisor, who may request Regional Review Committee consideration, for approval.

Systems not located within the geographical center of the jurisdiction(s) for which they cover shall utilize either directional antennas or antenna/tower relationship techniques to achieve the coverage required by this plan.

3.4.3 Determination Of Coverage

There are four variables used in determining the area of coverage of a proposed system. These variables are (1) the required strength of the received signal, (2) antenna height above average terrain (HAAT), (3) the effective radiated power (ERP) of the system, and (4) the type of environment.

Received Signal Strength:

For purposes of this plan, received signal strength shall be the determining factor which defines the actual boundary of a system. The signal level which marks the outer boundary of a system shall be 40 dBu.

Antenna Height:

Shall be the height of the antenna above the average terrain surrounding the tower site.

Effective Radiated Power (ERP):

The ERP is the transmitter output power times the net gain of the antenna system. The actual formula is: $ERP (w) = \text{Power}(w) \times \text{Antilog}(\text{net gain in dB divided by } 10)$.

Environment Type:

The following four classifications were used to describe average terrain:

1-URBAN; Which is built-up city-crowded with large buildings or closely interspersed with houses and thickley-grown trees. This would include the downtown area of a major city.

2-SUBURBAN; Which is a city scattered with trees, houses and buildings. This would include the downtown area of a large city.

3-QUASI-OPEN; Is an area between suburban and open areas. This includes areas outside of city limits that have few buildings and houses.

4-OPEN; Is an area where there are no obstacles such as tall trees or buildings in the propagation path or a plot of land which is cleared of anything for 300 to 400 meters ahead. This would include farm land, open fields, etc.

3.4.4 Annexations And Other Expansions

It is well known that as cities grow, annexations occur. When an expansion of the present city limits of any city currently using an 800 megahertz system within the spectrum as herein specified occurs, it is understood that the existing system may have to be expanded and its range increased. This is a modification and may be permitted. The increased range of the system will have to be

determined at the time of modification to assure non-interference with any other existing system. Where interference is likely, the use of alternate methods of expansion, such as satellite systems, may be necessary. Where more spectrum is not available from the initial allocation, the rules for expansion of initial allocation, as contained in this plan, shall apply.

3.4.5 Coverage Area Description

All applicants shall provide with their applications a map showing the jurisdictional boundaries to be covered by the page system, and the calculated system coverage. This map shall display the location of the system transmitter(s), including control stations. It is recommended that a U.S. Geological Survey (USGS) Quad topographical map be used for this purpose. If not available, a high quality locally produced map or a highway map may be substituted. Regardless of the type map used, the name of the applicant and the scale of the map shall be displayed on the map.

3.4.6 Give Back Frequencies

All agencies participating in the use of the new 800 megahertz spectrum shall prepare and submit a plan for their currently licensed frequencies in the lower bands.

Agencies will be required to surrender their vacated frequencies if the following three conditions are met: (1) the new system fully replaces the functions of the old one, (2) the licensee has no other communications requirements that could be met through the use of the lower frequencies, and (3) the new system has operated satisfactorily for long enough to allow a smooth transition from former operations and to demonstrate its reliability (refer to NPSPAC Final Report, Section V-A).

The Regional Review Committee would have the freedom to consider below 800 mhz public safety bands in developing their regional plans, but the licensing of channels in these bands would continue to be conducted through existing frequency coordination procedures.

Frequencies which are to be abandoned by an agency shall not be handed down to another agency within the respective jurisdiction. Though this may seem a convenient method to re-use existing radio equipment, the reassignment must be handled through the normal process. It is recommended that any jurisdiction wishing to "hand down" frequencies to another agency submit the proper coordination and application forms with the document of release. This will put the applicant in a better posture for reassignment of the frequency in question. It should be noted that even though this procedure is followed, there is no guarantee that a particular frequency will be assigned to the requesting jurisdiction.

The time frame allowed for phasing into 800 MHz and out of the lower currently licensed bands will be considered on a case by case basis by the review committee. Generally, one year will be considered acceptable in most cases, with two years as a maximum. Any agency requiring more than two years shall provide documents stating the reasons for the delay, and give the estimated time of completion.

3.4.7 Reserved Spectrum

a. Due to the fact that all of the frequency spectrum is not needed at this time, the excess channel pairs will be returned to a reserve spectrum. These channels may be used for conflict with adjacent Region allocations or may simply remain within this Region until needed. This does not imply that these frequencies are unavailable, only that before they can be utilized within the Region they must be coordinated via the regular APCO coordination process and within the guidelines set forth in this plan. Where possible, the channels designated for a jurisdiction in this plan shall be used.

3.4.8 Adjacent Region Coordination

Coordination with adjacent regions shall be an on-going process. There are eight Regions adjacent to Region 24, State of Missouri: Arkansas, Region 4; Illinois, Region 13; Iowa, Region 15; Kansas, Region 16; Kentucky, Region 17; Nebraska, Region 26; Oklahoma, Region 34 and; Tennessee, Region 39. All of these Regions were sent copies of the Region 24 plan by certified mail. Refer to appendix J for responses.

(See Appendix J)

As the use of the five National channels is not considered a day-to-day function, the "hard" coordination for the use of these channels is not considered to be necessary or advisable. The use of these channels will always be on a non-interference basis, with on-the-air coordination at the time of use when required. Any user found to be operating in any manner other than this shall be considered to be operating improperly and subject to the existing Federal Communications Commission rules for willful interference with the communications of other users.

3.5 Initial Spectrum Coordination

3.5.1 Frequency Sorting Methodology

The initial spectrum allocation for the Region was determined by a computerized frequency sorting process performed by APCO. The

purpose of the computer program which assigns frequencies to specific eligibles and to pools for future assignments is two-fold:

- A) The assignments must result in a high degree of spectrum efficiency, and
- B) The assignments must result in a low probability of co-channel and adjacent channel interference.

Since the desired output is a geographic sorting of frequencies, a method of defining geography must be part of the input. A list of the number of channels to be assigned in each geographic area is also required.

Acceptable interference probabilities are determined for the Region. Frequency assignments are then made using a computer program which satisfies the goals of spectrum efficiency and interference protection. The following narrative describes the factors and process used by the computer program.

3.5.2 Geographic Area

For the purpose of this frequency sort, a geographic area is defined as one or more circles of equal radius. To the degree practical, the circle(s) should include the entire area of the eligible's geopolitical boundary, but not exceed the boundary by more than five (5) miles. Thus, the procedure is to gather maps of sufficient detail, outline the areas to be defined, determine the coordinates and radius of the circles which define each area, and tabulate the data.

3.5.3 Blocked Channels

In the Region there are five mutual aid channels which must be blocked out to prevent the computer from making assignments on these channels. (Since the mutual aid channels are spaced at 0.5 MHz intervals, other Region-wide systems are spaced at 0.5 MHz and placed adjacent to the mutual aid channels. This procedure reduces the impact of blocked adjacent channels by virtue of the fact that the channel plan already has protection spacing on each side of the mutual aid channels.)

These Region-wide blocked channels are identified by FCC channel number, tabulated and they become input to the computer program.

3.5.4 Transmitter Combining

The computer program is designed to provide a minimum frequency separation between any two channels assigned to the same eligible at the same site. This separation is provided in order to enable more efficient combining of multiple transmitters to a single antenna. These separated blocks of frequencies also have a maximum size. That is, if the eligible has more frequencies than the

maximum size of the combining block, then a second compatible block is created, and so on. Each of these parameters is adjustable in the program on a global basis. The default parameters chosen are 0.25MHz minimum spacing and five channel blocks.

3.5.5 Special Considerations

There are licensees in the 806-821/852-866 MHz spectrum who plan to expand existing systems into the 821-824/866-869 MHz bands. Some of the existing radio units are unable to operate on 12.5 KHz separated carrier frequencies. The result is that these radios can only operate on "even" FCC numbered channels in the 821-824/866-869 MHz band. The computer program is able to take this into account when making assignments.

3.5.6 Protection Ratios

There are two interference protection ratios built into the computer program. One is for the co-channel case, the other is for the adjacent channel case. The ratios provide 35 dB Desired/Undesired signal ratio for co-channel assignments, and 15 dB Desired/Undesired ratio for the adjacent channel case. These ratios provide an acceptable probability of interference for Public Safety Services.

3.5.7 Adjacent Region Consideration

The computer program requires a listing of channels to be blocked along the borderline with other regions which have pre-existing plans. If the adjacent region plan was developed using the APCO packing program, this information exists in the database. If the adjacent region plan was developed by another method, then the data must be obtained from the adjacent region's plan in order to build the exclusion list.

4.0 COMMUNICATIONS REQUIREMENTS

4.1 Common Channel Implementation

The implementation of the International Common Channels must follow the guidelines as set forth by the Federal Communications Commission by the approval of the National Plan. These five common channels are accessible by all levels of government and shall be used in accordance with the provisions of the National Plan. All mobile and portable equipment must be equipped to operate in the "talkaround mode" when required on the International Channels.

The International calling channel - channel 601 (821/866.0125 MHz)- shall be implemented as a full mobile relay. Wide area coverage transmitters will be installed where applicable within a system. Large system users (5 channels or more) of 800 MHz shall be required to monitor this channel at all times. The area of coverage for this channel shall be equal to the area covered by the licensed system. This may or may not require the use of satellite receivers within the area to meet this requirement.

The four International Tactical (ITAC) Channels will be assigned State-wide, for use as needed by all eligible licensees. These channels are to be used in accordance with the National Plan and in compliance with the regulations as set forth by the Federal Communications Commission. These channels require no special licensing, only that the users be eligible for licensing on the other Public Safety 800 MHz channels as specified in section 90.616 (a) of the FCC Rules and Regulations.

4.1.1 Areas of Operation

The common channels shall be available for use throughout the Region. No specific assignments were deemed necessary within the Region.

4.1.2 Operation on The Common Channels

Normally, the five interoperable channels are to be used only for activities requiring inter-communications between agencies not sharing any other compatible communications system. Interoperable channels are not to be used by any level agency for routine, daily operations. In major emergency situations, one or more ITAC channels may be assigned by the primary Public Safety Agency within that area of operation. The primary Public Safety agency in each county, if not defined elsewhere in the plan, shall be the County Sheriff's Department or Public Safety Department or the lead agency, which may be any agency licensed to operate in this spectrum, or "on-scene" commander. The primary Public Safety agency shall be the city level Public Safety Department in situations which occur within the corporate limits of said city. These primary agencies will assign one or more of the ITAC channels

for use according to need during each special situation requiring the use of these channels.

Participants in the interoperable channels include Federal, State, and Local Disaster Management agencies. Police, Fire, and providers of Basic and Advanced Life support services will be the primary using agencies. If radio channels are available, other services provided in the Public Safety Radio Services and the Special Emergency Radio Services may also participate to the extent required to insure the safety of the public. These agencies include the Highway Department, Motor Vehicle Comptroller, Forestry, Wildlife and other special service agencies not normally involved in day-to-day public safety operations.

4.1.3 Operation Procedures

On all Common Channels, plain English will be used at all times, and the use of unfamiliar terms, phrases, or codes will not be allowed.

4.1.3(I) International Calling Channel (ICALL):

The ICALL channel shall be used to establish contact with other users in a particular Region that can render assistance at an incident. This channel shall not be utilized as an ongoing working channel. Once contact has been established between agencies, an agreed upon ITAC or mutual aid channel shall be used for continued communications.

4.1.3(II) International Tactical Channels (ITAC-1 - ITAC-4):

These frequencies are reserved for use by those agencies involved in inter-agency communications. Incidents requiring multi-agency participation will utilize these frequencies as directed by the control agency assuming responsibility for an incident or area of concern. These frequencies may be subdivided according to function in an incident or by geographical location in response to an incident. It is recommended that the following assignments for ITAC-1 through ITAC-4 be used when possible.

- ITAC-1..... Law Enforcement
- ITAC-2Fire Services
- ITAC-3Emergency Medical Services
- ITAC-4Command and Control

4.1.4 Coded Squelch

All equipment capable of operating on the five (5) common channels shall be equipped with the National Common Tone Squelch of 156.7 Hz. Mobile relays on these channels, if authorized, may use additional tone or digital squelch codes for the purpose of selecting individual mobile relay stations, provided the National

Common Tone Squelch Code is used on the output. If such an arrangement is utilized, provision must also be made for certain centralized, high level sites to be activated by the 156.7 tone to ensure emergency access by transient units.

4.2 Network Operating Methods

Communications systems on ITAC-1 thru ITAC-4 will be implemented by agencies who volunteer on a distributed coordinated basis. Every primary geographic section of the Region is intended to be covered by at least one of the ITAC channels. In many areas the common channels will be utilized on a mobile to mobile talk-around basis. Mobile relays on ITAC-1 thru ITAC-4 will be on a limited coverage design to permit reuse of the channel several times within the Region and in adjacent regions. Since Region 24 will probably not have a large number of stationary ITAC Channel stations, the implementation of mobile relay or repeaters is strongly encouraged. This will fill an "on-scene" requirement for most multi-agency response situations. Adjacent region coordination will be via existing mutual aid coordination procedures with the requesting region establishing the tactical frequency assignment.

4.3 Requirements For Trunking

All systems operating in the Region having five or more channels will be required to be trunked. Those systems having four or less channels may be conventional. It is strongly suggested that any entity licensing three or more repeaters use trunking.

The FCC in its Report and Order states: "Exceptions will be permitted only when a substantial showing is made that alternative technology would be at least as efficient as trunking or that trunking would not meet operational requirements. Exceptions will not be granted routinely. Strong showings as to why trunking is unacceptable must be presented in support of any request for exception."

Systems that do not meet FCC loading standards can be required to share such frequencies on a non-exclusive basis. Those agencies requesting Data channels only can be required to share channels with adjacent agencies wherever feasible or limit coverage to their geographic area. Exceptions will be considered on a case-by-case basis by the Regional Review Committee.

Depending on systems loading and the need for multiple systems within an area, operators of wide area systems (including, but not limited to, designated "Monitoring Agencies") must provide for coordination between area-wide systems and "Monitoring Agencies". Single municipalities or agencies must restrict design and implementation of their systems(s) to provide only the communications needed within its geopolitical boundaries. The use of trunked systems is encouraged. However, if the total number of

radios in service does not reach minimum loading criteria for a trunked system, that user must consider utilizing the next higher system level if 800 MHz trunked radio is available in the area. As systems reach capacity, the smaller system users must consider consolidating their communications systems to formulate one large trunked system.

A requesting applicant for radio communications in the 800 MHz public safety services in the Region will be required to conform to the FCC loading criteria for its proposed system. The provisions of this regional plan must be used as a guide for establishing any new systems. Strict adherence for limiting the area of coverage to the boundaries of the applicant agency's jurisdiction must be observed. Overlap or extended coverage must be minimized, even where systems utilizing 800 MHz trunked radio systems are proposing to intermix systems for cooperative and/or mutual aid purposes.

Antenna heights are to be limited to provide only the necessary coverage for a system. When antenna locations are restricted to only the "high-ground", transmitter outputs and special antenna patterns must be employed to produce only the necessary coverage with the proper amount of ERP. All necessary precautions are to be taken to gain maximum reuse of the limited 800 MHz spectrum.

4.4 Channel Loading Requirements

An agency/jurisdiction requesting a single frequency to replace a frequency currently in use that will be turned back for reassignment will not be required to meet loading requirements in order to obtain the new frequency. However, if the single frequency is not loaded to more than 50 units within three years after the license is granted, the frequency will be available for assignment to other agencies on a shared basis in the event that other frequencies meeting the criteria for assignment are exhausted. Shared use of a frequency is not interference free. Users of single frequency systems may be required to provide the Regional Review Committee "confirmation of loading" for mobiles and portables as a method of validating system loading. This exception shall apply to agencies having only one system and a single frequency. Agencies/jurisdictions requesting multiple frequencies or employing trunking technology shall comply with the loading standards as outlined below or provide a "Traffic Loading Study" that meets the criteria as outlined below.

4.4.1 Loading Tables

EMERGENCY		NON-EMERGENCY	
CHANNELS	UNITS/CHANNEL	CHANNELS	UNITS/CHANNEL
1 - 5	70	1 - 5	80
6 - 10	75	6 - 10	90
11 - 15	80	11 - 15	105
16 - 20	85	16 - 20	120

Agencies requesting additional frequencies must show loading of 100 percent or greater on their existing system. Should a demand for frequencies exist after assignable frequencies become exhausted, any system having frequencies assigned under this plan four or more years previously and not loaded to at least 70 percent will lose operating authority on a sufficient number of frequencies to bring the system into compliance with the 70 percent loading standard. Frequencies lost in this manner will be reallocated to other agencies to help satisfy the demand for additional frequencies.

4.4.2 Traffic Loading Study

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

4.4.3 Slow Growth

All systems in the 821-824/866-869 mhz bands under this plan, will be slow growth in accordance with Section 90.629 of the Commission rules.

4.5 Use of Long Range Communications

During incidents of major proportions, where Public Safety requirements might include the need for long-range communications in and out of a disaster area, alternate radio communications plans are to be addressed by Primary Public Safety agencies within this sub-region. These agencies should integrate the appropriate interface to the long distance communications providers. Such long

distance radio communications might be amateur radio operations, satellite communications and/or long range emergency preparedness communications systems, any of or all of which should be incorporated as part of the communications plans of those lead agencies. They then could provide the means to communicate outside the area for themselves and the smaller agencies who might need assistance. Instances as addressed in the National Public Safety Planning Advisory Committee's Plan, such as earthquakes, hurricanes, floods, widespread forest fires, or nuclear reactor problems could be a cause for such long-range communications needs.

4.6 Expansion of Existing Systems

Existing systems that are to be expanded to include the frequency bands of 821-824/866-869 MHz will have the mobile radios "grandfathered", provided that they are modified in conformance with the Memorandum Opinion and Order, FCC Docket 87-112. Primarily this involves reducing the modulation to +/- 4 KHz. Existing base stations in the frequency bands 806-821/851-866 MHz may not be used in the frequency bands 821-824/866-869 MHz.

5.0 IMPLEMENTATION AND PROCEDURES

5.1 Notification

Several methods of notification were used to invite interested parties to participate in the development of this plan. Initially, personal contact was made by the "convenor" to all of the major State agency communications users in the State of Missouri. Announcements were made at various group meetings.

Supplemental to the personal contact, all APCO Chapter members and a large number of other interested parties who had requested notification were sent letters of invitation.

During the initial meeting, names, addresses and telephone numbers of those individuals present were taken. (Appendix A)

When the work on the plan was completed, a final planning committee meeting was called. This meeting was held at the Missouri State Highway Patrol Headquarters on November 12, 1992. Each member of the planning committee was presented with a draft copy of the plan for study. A copy of the draft, with changes made at the meeting of November 12th 1992, was mailed to each member of the committee including those not present at the meeting. Review of the draft prompted some additional replies and further changes to the plan. These changes were mailed to all members of the committee, together with a ballot for them to execute a vote of approval or rejection. By virtue of a decision made at the meeting of November 12th 1992, a simple majority was considered to be sufficient to approve the plan.

5.2 Frequency Allocation Process

The method used for "packing" Region 24 was the APCO, computerized method. The approximate geographical location for the center of each county, in latitude and longitude, were provided along with the environmental type of the county and the approximate radius to cover the county lines.

This allocation is the minimum and only applies to counties with a population of 20,000 or less. One additional channel is allocated for each additional 20,000 of population.

5.3 Frequency Allocation Map

Attached (Appendix K) is the data, or packing plan generated by APCO via the computerized packing program. The plan took adjacent regions into consideration, in addition, letters of concurrence were sent.

5.5 Expansion of Initial Allocation

In the event that the allocation for any county becomes depleted, the Region Review Committee shall meet to make further allocations to said county. Should this occur, the applying agency or entity shall submit the proper license and coordination applications with all applicable fees, as in any other licensing request. Allocations will be made based on the initial frequency allocation plan as mentioned above, taking into consideration the channels which were returned to the reserve pool.

5.6 Prioritization of Applicants

A very simple method of prioritization has been chosen for use in this Region. As there is no unmet spectrum requirement, there appears to be no great need for prioritization. In order to facilitate future problems which may arise, the following rating system shall be used.

Prioritization shall be done according to a final score, based on applicant criteria. The highest score, in points, shall be given priority in a situation where spectrum is insufficient to fulfill the needs of all.

Public Safety Agencies.....	2 Points
Public Services Agencies.....	1 Point
Multi-agency Systems.....	2 Points
Multi-agency/Multi Jurisdiction Systems...	3 Points
Single Agency/Jurisdiction Systems.....	1 Point

5.7 Appeal Process

At any time, any applicant may appeal an allocation, rejection, or any limits placed on a particular application for any reason. The appeal process has two levels; the Region Review Committee, and the FCC. An applicant who decides to appeal a rejection should initiate that appeal immediately upon notification of rejection. In the event that an appeal reaches the FCC, their decision will be final and binding upon all parties.

6.0 THE REGION 24 PLANNING COMMITTEE

CHAIRPERSON:

John R. Gerke
City of St. Louis
Communications Division
4971 Oakland Ave.
St. Louis, Missouri 63110

Phone: 314 533-5802
Fax: 314 534-7059

THE REGIONAL PLANNING COMMITTEE

ALL THE MEMBERS;

NAMES, ADDRESSES, AGENCIES AFFILIATION, PHONE NUMBERS

(See Appendix H)

Appendix A

Abart, Frank	Boone County Public Works	314-449-8515
Ahrens, Ken	MSHP, Communications	314-751-3747
Arthur, Vance	Morotola C & E	913-491-1090
Badgett, Chuck	St. Louis City Fire Dept.	314-533-4175
Bangs, Neil	Belton Fire Dept.	816-331-7969
Bauer, William	No. Central County Fire Alarm	314-428-1134
Bland, David	G.E., Independence, Mo.	913-642-9700
Bolden, David	Jeff. City Ambulance Service	314-635-7141
Bond, Kevin	Pettis County Sheriff's Dept.	816-827-0052
Britts, Kimberly	Cole County Sheriff's Dept.	314-634-9160
Byrne, Tom	Clayton Police Dept.	314-727-4130
Cain, Bill	Butler Police Dept.	816-679-6131
Clark, Lee	FEMA Region VII, K.C., Mo.	816-283-7074
Davisson, David	Benton County EMS	816-438-6779
Deck, David	Breech Paramedics	417-532-2136
Deitch, Bobby	Johnson County Cent. Disp.	816-747-2265
Dennis, Clay	Benton County Sheriff's Dept.	816-438-5252
Dometrorch, Shelly	Boone County Sheriff's Dept.	314-874-6226
Eador, John	Nevada, Mo. Police Dept.	417-667-7848
Edwards, David	Camden Cnty. Sheriff's Dept.	314-346-2243
Edwards, David	MEMSA (Mo. EMA Assn.)	314-449-5954
Gerke, John	St. Louis PD (as of convening)	314-533-5802
Gray, Mike	Mo. Dept. of Health/EMS	314-751-6356
Grideley, Timothy	MAST Ambulance, K.C., Mo.	816-361-2600
Gulick, Barbara	Kansas City, Mo. Police Dept.	816-234-5110
Harris, Frank	Creve Coeur Police Dept.	314-569-5024
Hart, Bill	Motorola C & E	913-491-1090
Heigl, Val	Overland Police Dept.	314-428-1221
Henry, Ron	Clinton Cnty. Sheriff's Dept.	816-539-3777
Hensley, Tom	Mo. Ambulance Dir. Network	816-539-2317
Hill, Charles	Kansas City, Mo. Police Dept.	816-231-1997
Hood, Ron	Mo Conservation Dept.	314-751-4115
Johnson, Kieth	Henry Co. Sheriff's Dept.	816-885-5587
Johnston, Phil	Springfield Fire Dept.	417-864-1041
Jones, J.L.	Greene Co. Sheriff's Dept.	417-868-4040
Katz, Steve	Kustom Electronics	913-383-1337
Kayser, Don	Creve Coeur Police Dept.	314-432-8000
Kearns, Tom	G.E., Overland Park, Kansas	916-642-9700
Keene, C. Richard	City of Kansas City, Mo.	816-274-1405
Knittig, Bill	Cent. Cnty., Emerg. Disp.	314-394-5443
Krider, LeRoy	Kaysinger Basin RPC, Clinton	816-885-3393
Lachner, Don	Mo. State Water Patrol	314-751-2063
LeCuru, Rhonda	Jefferson City Police Dept.	314-634-6400
Lewis, John	MSHP, Communications	314-751-3747
Ludwig, Gary	EMS, St. Louis	314-645-9160
Luna, Verlin	MSHP, Communications	314-751-3747
Lundsted, Jim	MSHP, Jefferson City	314-751-3747
McGraw, Dan	City of Independence, Mo.	816-836-8300
McNaron, Jim	Benton County Sheriff's Dept.	816-438-5252
Miles, Vic	Kansas City, Mo. Fire Dept.	816-472-1823

Miller, Eldon	Belton Emergency Management	816-331-7969
Montgomery, Jerry	University City Police Dept.	314-725-2211
Morris, Art	Nevada, Mo. Police Dept.	417-667-7848
Oliver, Mona	Columbia/Boone Cnty. Joint Comm.	314-874-7401
Osterhoudt, Darrell	Mo. Dept. of Natrual Resources	314-751-1187
Ostrander, John	Mo. Highway & Trans. Dept.	314-751-4675
O'Connor, John	Motorola C & E	913-491-1090
Peters, Kenny	Mo. Dept. of Health/EMS	314-751-6356
Redman, Micxhael G.	St. Louis County Police Dept.	314-889-2362
Riley, W.O.	Raytown Police Dept.	816-757-6016
Robertson, Ed	Osage Council on Crim. Just.	816-679-5650
Sapp, Steven	Columbia/Boone Cnty. Joint Comm.	314-874-7471
Schurman, Dick	Joplin Police Dept.	417-623-3131
Scott, Sharon	FCC, K.C., Mo.	816-926-5111
Scrivner, Kent	JCPD & MO Police Chiefs Assn.	314-634-6400
Siemers, Michael	St. Louis Police Dept.	314-444-5502
Smith, Sherie	Maryland Heights Police Dept.	314-298-8700
Spencer, Paul DVM	Mo. Vet. Med. Assn.	314-751-2334
Stout, Elisabeth	Natl. Park Service, St. Louis	314-425-5095
Tate, Roy	Greene Co. Sheriff's Dept.	417-868-4040
Teeter, Ken	MO DNR, EER, Jefferson City	314-751-7929
Townley, Audry	EMS, St. Louis	314-622-5160
Turkishier, Dan	Motorola C & E	913-491-1090
Vreeland, George D.	G.E. Mobile	314-432-1336
Weilbacher, Mike	REJIS, St. Louis	314-535-1950
West, Bob	Camden Cnty. Sheriff's Dept.	314-346-2243
Whitaker, Paul	K.C., MO Area Hospital Assn.	816-941-3800
Wilcox, Samuel	University City Police Dept.	314-725-2211
Zelch, Vernon	Sullivan Police Dept.	314-468-8001
Zerr, Rod	St. Charles Cnty. Ambulance Dist.	314-947-4187
Zimmer, Mark	Rock Hill Police Dept.	314-962-6600

Appendix B

Adams, Paul	unknown	
Albera, Peter J.	Motorola C & E	
Bauer, William	No. Central County Fire Alarm	314-428-1134
Bond, Kevin C.	Pettis County Sheriff's Dept.	816-827-0052
Brenneke, Sam	unknown	
Clark, Lee	FEMA, Region VII, K.C., Mo.	816-283-7074
Davison, David	Benton County EMS	816-438-6779
Edwards, David	MEMSA (Mo. EMA Assn.)	314-449-5954
Gerke, John	St. Louis PD (as of convening)	314-533-5802
Gray, Mike	Missouri Bureau of EMS	314-751-6356
Gridley, Timothy S.	MAST Ambulance, K.C. Mo.	816-361-2600
Henry, Ron	Clinton Cnty. Sheriff's Dept.	816-539-3777
Hensley, Tom	Mo. Ambulance Dir. Netwrok	816-539-2317
Hook, Ron	Mo. Conservation Dept.	314-751-4115
Johnston, Phil	Springfield Fire Dept.	417-864-1041
Keene, Dick	City of Kansas City, Mo.	816-274-1405
Knittig, Bill	Central County Emerg. Disp.	314-394-5443
Krider, Leroy	Kaysinger Basin RPC, Clinton	816-885-3393
Lachner, Don	Mo. State Water Patrol	314-751-2063
Lundsted, Jim	MSHP Communications	314-751-3747
Morris, Art	Nevada, Mo. Police Dept.	417-667-7848
Oliver, Mona	Columbia/Boone Cnty. Joint Comm.	314-874-7401
Ostrander, John	Mo. Highway & Trans. Dept.	314-751-4675
Peters, Kenny	Missouri Bureau of EMS	314-751-6356
Ryan, Tom	unknwon	
Sapp, Steven	Columbia/Boone Cnty. Joint Comm.	314-874-7471
Schurman, Dick	Joplin Police Dept.	417-623-3131
Scrivner, Kent	Jeff. City, MO. PD & Police Chief's Assn	314-634-6400
Siemers, Lt. Michael	St. Louis Police Dept.	314-444-5502
Smith, Sherie	Maryland Heights Police Dept.	314-298-8700
Teeter, Ken	MO DNR, EER, Jefferson City	314-751-7929
Thayer, Michael	unknwon	
Zerr, Rod	St. Charles Cnty. Amb. Dist.	314-947-6600

Appendix C

Bauer, William	No. Central County Fire Alarm	314-428-1134
Bond, Kevin C.	Pettis County Sheriff's Dept.	816-827-0052
Davisson, David	Benton County EMS	816-438-6779
Gerke, John	St. Louis PD (as of convening)	314-533-5802
Gray, Mike	Missouri Bureau of EMS	314-751-6356
Gridley, Timothy S.	MAST Ambulance, K.C. Mo.	816-361-2600
Hook, Ron	Mo. Conservation Dept.	314-751-4115
Johnston, Phil	Springfield Fire Dept.	417-864-1041
Knittig, Bill	Central County Emerg. Disp.	314-394-5443
Krider, Leroy	Kaysinger Basin RPC, Clinton	816-885-3393
Lundsted, Jim	MSHP Communications	314-751-3747
Morris, Art	Nevada, Mo. Police Dept.	417-667-7848
Oliver, Mona	Columbia/Boone Cnty. Joint Comm.	314-874-7401
Ostrander, John	Mo. Highway & Trans. Dept.	314-751-4675
Peters, Kenny	Missouri Bureau of EMS	314-751-6356
Sapp, Steven	Columbia/Boone Cnty. Joint Comm.	314-874-7471
Scrivner, Kent	Jeff. City, MO. PD & Police Chief's Assn	314-634-6400
Smith, Sherie	Maryland Heights Police Dept.	314-298-8700

Appendix D

Albera, Peter J.	Motorola C & E	
Bauer, William	No. Central County Fire Alarm	314-428-1134
Bond, Kevin C.	Pettis County Sheriff's Dept.	816-827-0052
Brenneke, Sam	unknown	
Davisson, David	Benton County EMS	816-438-6779
Gerke, John	St. Louis PD (as of convening)	314-533-5802
Gray, Mike	Missouri Bureau of EMS	314-751-6356
Gridley, Timothy S.	MAST Ambulance, K.C. Mo.	816-361-2600
Hook, Ron	Mo. Conservation Dept.	314-751-4115
Johnston, Phil	Springfield Fire Dept.	417-864-1041
Knittig, Bill	Central County Emerg. Disp.	314-394-5443
Krider, Leroy	Kaysinger Basin RPC, Clinton	816-885-3393
Lundsted, Jim	MSHP Communications	314-751-3747
Morris, Art	Nevada, Mo. Police Dept.	417-667-7848
Oliver, Mona	Columbia/Boone Cnty. Joint Comm.	314-874-7401
Ostrander, John	Mo. Highway & Trans. Dept.	314-751-4675
Peters, Kenny	Missouri Bureau of EMS	314-751-6356
Ryan, Tom	unknwon	
Sapp, Steven	Columbia/Boone Cnty. Joint Comm.	314-874-7471
Scrivner, Kent	Jeff. City, MO. PD & Police Chief's Assn	314-634-6400
Smith, Sherie	Maryland Heights Police Dept.	314-298-8700
Thayer, Michael	unknwon	

Appendix E

Baker, Mike	Columbia/Boone Cnty. Joint Comm.	314-874-7401
Bauer, William	No. Central County Fire Alarm	314-428-1134
Brooks, John	Dir. Springfield Mo. Comm.	417-864-1718
Davisson, David	Benton County EMS	816-438-6779
Dollus, Tom	M&T Div. Mo. Hwy/Trans.	314-751-2845
Estabrooks, Laura	Columbia/Boone Cnty. Joint Comm.	314-874-7401
Gerke, John	St. Louis City	314-533-5802
Gray, Mike	Missouri Bureau of EMS	314-751-6356
Hill, Charles	Kansas City PD	816-231-1997
Huenik, Hans	Mo. State Water Patrol	314-751-3333
Knittig, Bill	Central County Emerg. Disp.	314-394-5443
Knobbe, Steve	M&T Div. Mo. Hwy/Trans.	314-751-2822
Lachner, Don	Mo. State Water Patrol	314-751-2063
Lundsted, Jim	MSHP Communications	314-751-3747
Miles, Vic	Kansas City FD	816-471-1823
Ostrander, John	Mo. Highway & Trans. Dept.	314-751-4675
Redman, Michael	St. Louis County Police	314-889-2362

Appendix F

Dabell, Dr. David	Med. Dir. St. Johns Hosp.	314-569-6000
Dietrich, Robert	Gateway Ambulance	314-351-4702
Dougherty, Terry	Abbott Ambulance	314-963-1000
Dreifuss, Rodney	St. Louis City EMS	314-645-9160
Stump, Richard	SEMA, Mo.	314-751-9583

Appendix G

Baker, Mike	Columbia/Boone Cnty. Joint Comm.	314-874-7401
Barrow, John	Gateway Ambulance	314-351-4702
Bauer, William	No. Central County Fire Alarm	314-428-1134
Biggerstaff, Jim	MSHP	314-751-3747
Brooks, John	Dir. Springfield Mo. Comm.	417-864-1718
Dabell, Dr. David	Med. Dir. St. Johns Hosp.	314-569-6000
Davisson, David	Benton County EMS	816-438-6779
Dollus, Tom	M&T Div. Mo. Hwy/Trans.	314-751-2845
Gerke, John	St. Louis City	314-533-5802
Gray, Mike	Missouri Bureau of EMS	314-751-6356
Hill, Charles	Kansas City PD	816-231-1997
Huenik, Hans	Mo. State Water Patrol	314-751-3333
Huffman, John	Abbott Ambulance	314-963-1000
Knobbe, Steve	M&T Div. Mo. Hwy/Trans.	314-751-2822
Lachner, Don	Mo. State Water Patrol	314-751-2063
Ludwig, Gary	St. Louis City EMS	314-645-9160
Lundsted, Jim	MSHP Communications	314-751-3747
Miles, Vic	Kansas City FD	816-471-1823
Ostrander, John	Mo. Highway & Trans. Dept.	314-751-4675
Peters, Ken	Missouri Bureau of EMS	314-751-6356
Redman, Michael	St. Louis County Police	314-889-2362
Smith, Sherie	Maryland Heights PD	314-298-8700
Stump, Richard	SEMA, Mo.	314-751-9583

Appendix H

Barrow, John
Gateway Ambulance
6492 Gravois
St. Louis, MO. 63116
314-4702

Bauer, Bill
North Central Fire Alarm
3280 McGibbon Dr.
St. Louis, MO. 63114
314-428-1134

Biggerstaff, Jim
MSHP
PO Box 568
Jefferson City, MO. 65102
314-751-3747

Brooks, John
Springfield Mo. Emerg. Comm.
319 E. Chestnut Expressway
Springfield, MO. 65802
417-864-1718

Crouch, Russell
St. Louis EMS
2634 Hampton Ave.
St. Louis, MO. 63139
314-645-9160

Fitzgerald, Jan
Hospital Assn. of St. Louis
4236 Lindell Blvd.
St. Louis, MO 63108
314-531-1000

Gerke, John
City of St. Louis
Communications Divn.
4971 Oakland
St. Louis, MO. 63110
314-533-5802

Gray, Mike
Missouri Bureau of EMS
PO Box 570
Jefferson City, MO. 65102
314-751-6356

Hill, Charles
Kansas City, Mo. Police Dept.
3324 E, 12th St.
Kansas City, MO. 64127
816-231-1997

Huenik, Hans
Mo. State Water Patrol
PO Box 1368
Jefferson City, MO. 65102-1368
314-751-3333

Huffman, John
Abbott Ambulance
8401 Hanley Ind. Ct.
St. Louis, MO. 63144
314-963-1000

Lachner, Don
Mo. State Water Patrol
PO Box 1368
Jefferson City, MO. 65102
314-751-2063

Lundsted, Jim
MSHP
PO Box 568
Jefferson City, MO. 65102
314-751-3747

Miles, Vic
Kansas City, Mo. Fire Dept.
414 E. 22nd St.
Kansas City, MO. 64108-2602
816-471-1823

Peters, Ken
Missouri Bureau of EMS
PO Box 570
Jefferson City, MO. 65102
314-751-6356

Redman, Michael
St. Louis County Police Dept.
Communications
7900 Forsythe Blvd.
St. Louis, MO. 53105
314-889-2362

Scott, Brian
Mo. Divn. H/T
PO Box 270
Jefferson City, MO. 65102
314-751-2822

Townley, A.J.
St. Louis City EMS
2634 Hampton Ave.
St. Louis, MO. 63139
314-645-9160

Appendix I

TABLE E
SUMMARY OF PROJECTED TOTAL POPULATION FOR MISSOURI COUNTIES AND REGIONS
SCENARIO R (RECENT MIGRATION): 1985-2010

	1985	1990	1995	2000	2005	2010
MISSOURI	5,029,706	5,154,717	5,251,461	5,327,341	5,392,726	5,453,441
Adair	24,464	24,378	24,343	24,337	24,353	24,479
Andrew	14,767	15,771	16,759	17,682	18,557	19,413
Atchison	8,164	7,791	7,415	7,064	6,757	6,511
Audrain	25,850	25,179	24,404	23,612	22,873	22,229
Barry	26,121	27,710	29,142	30,478	31,687	32,689
Barton	11,428	11,674	11,948	12,256	12,631	13,060
Bates	15,639	15,424	15,157	14,931	14,772	14,654
Benton	12,726	13,158	13,444	13,586	13,582	13,406
Bollinger	10,562	10,852	11,088	11,286	11,459	11,610
Boone	104,635	108,320	111,698	114,919	117,866	120,455
Buchanan	85,756	83,951	82,042	80,098	78,416	77,164
Butler	38,551	39,312	39,806	40,037	40,045	39,801
Caldwell	8,167	7,786	7,391	6,989	6,598	6,256
Callaway	32,059	31,834	31,656	31,493	31,369	31,323
Camden	24,313	28,387	32,084	35,373	38,281	40,719
Cape Girardeau	60,457	61,991	63,328	64,580	65,820	66,996
Carroll	11,463	10,838	10,223	9,642	9,108	8,623
Carter	5,739	5,937	6,119	6,303	6,450	6,545
Cass	55,588	60,155	64,189	67,566	70,307	72,433
Cedar	12,188	12,228	12,083	11,785	11,360	10,772
Chariton	10,091	9,715	9,351	9,024	8,768	8,609
Christian	25,519	28,673	31,596	34,173	36,291	37,886
Clark	8,152	7,779	7,416	7,065	6,739	6,443
Clay	143,702	150,729	156,372	160,385	163,014	164,561
Clinton	16,222	16,480	16,647	16,780	16,925	17,077
Cole	61,316	65,306	69,695	73,464	76,704	79,528
Cooper	15,009	15,469	15,892	16,265	16,646	17,085
Crawford	18,985	19,695	20,301	20,807	21,280	21,730
Dade	7,460	7,500	7,466	7,385	7,280	7,153
Dallas	12,622	13,067	13,451	13,779	14,090	14,356
Daviess	8,518	8,115	7,739	7,404	7,117	6,866
De Kalb	8,059	9,377	9,235	9,073	8,905	8,742
Dent	14,442	14,243	13,923	13,530	13,109	12,641
Douglas	12,365	13,121	13,828	14,454	15,021	15,523
Dunklin	35,223	34,174	33,072	31,929	30,819	29,778
Franklin	76,568	81,887	86,749	91,117	95,075	98,582
Gasconade	13,427	13,630	13,822	13,993	14,149	14,283
Gentry	7,673	7,483	7,262	7,019	6,794	6,578
Greene	195,138	204,673	213,199	220,870	227,689	233,433
Grundy	11,319	10,664	10,014	9,389	8,804	8,259
Harrison	9,546	9,204	8,858	8,546	8,294	8,081
Henry	19,866	20,331	20,682	20,898	21,036	21,154
Hickory	7,003	7,600	8,120	8,582	8,964	9,277
Holt	6,575	6,377	6,165	5,961	5,772	5,621
Howard	9,732	9,480	9,243	9,035	8,890	8,823
Howell	29,905	30,871	31,648	32,281	32,817	33,228
Iron	11,031	10,912	10,718	10,467	10,161	9,787
Jackson	634,587	637,885	638,315	636,687	635,200	634,580
Jasper	89,349	91,925	94,090	95,850	97,318	98,545
Jefferson	159,529	174,222	188,384	201,880	215,301	228,998
Johnson	37,877	38,917	37,841	37,021	36,487	36,304
Knox	5,059	4,674	4,307	3,962	3,638	3,357
Laclede	26,151	27,865	29,427	30,795	32,008	33,010
Lafayette	30,252	30,547	30,609	30,473	30,197	29,794
Lawrence	29,953	30,835	31,612	32,346	33,083	33,769
Lewis	10,680	10,477	10,288	10,098	9,907	9,720
Lincoln	24,772	27,696	30,564	33,270	35,850	38,329
Linn	14,920	14,237	13,554	12,917	12,366	11,914
Livingston	15,115	14,529	13,884	13,235	12,657	12,165
McDonald	15,478	15,952	16,356	16,679	16,905	17,014
Macon	16,466	16,682	16,882	17,072	17,250	17,392
Madison	11,014	11,292	11,494	11,654	11,778	11,848
Maries	7,801	8,015	8,168	8,264	8,311	8,299
Marion	28,742	28,730	28,602	28,485	28,428	28,399
Mercer	4,360	4,026	3,707	3,411	3,153	2,939
Miller	20,427	22,262	24,004	25,623	27,159	28,586

SCENARIO R (RECENT MIGRATION)

	1985	1990	1995	2000	2005	2010
Mississippi	15,709	15,673	15,557	15,397	15,238	15,069
Moniteau	12,686	13,346	13,978	14,567	15,163	15,738
Monroe	9,506	9,314	9,122	8,943	8,819	8,753
Montgomery	11,429	11,321	11,155	10,963	10,771	10,578
Morgan	15,196	16,469	17,515	18,284	18,815	19,075
New Madrid	22,320	21,871	21,468	21,107	20,859	20,779
Newton	42,425	44,407	46,275	47,985	49,554	50,987
Nodaway	21,263	20,725	20,260	19,895	19,672	19,631
Oregon	9,921	9,673	9,429	9,178	8,927	8,675
Osage	12,128	12,367	12,627	12,868	13,100	13,349
Ozark	8,631	9,249	9,797	10,270	10,656	10,919
Pemiscot	24,119	23,376	22,688	22,084	21,590	21,232
Perry	16,986	17,173	17,290	17,395	17,527	17,673
Pettis	36,186	36,262	36,310	36,324	36,415	36,646
Phelps	34,273	34,853	35,245	35,489	35,632	35,701
Pike	16,843	16,294	15,781	15,314	14,906	14,612
Platte	49,917	54,188	58,509	62,629	66,577	70,533
Polk	20,100	21,373	22,459	23,302	23,891	24,210
Pulaski	43,236	47,461	48,402	49,452	50,714	52,168
Putnam	5,623	5,174	4,742	4,329	3,938	3,590
Ralls	8,942	8,844	8,723	8,640	8,623	8,663
Randolph	26,268	27,037	28,100	29,220	30,416	31,642
Ray	21,878	22,586	23,236	23,786	24,272	24,736
Reynolds	7,027	6,916	6,791	6,662	6,522	6,381
Ripley	12,824	13,133	13,395	13,585	13,689	13,671
St. Charles	171,425	199,598	226,328	250,797	273,201	293,633
St. Clair	8,456	8,242	8,015	7,795	7,579	7,366
St. Genevieve	15,562	16,045	16,476	16,827	17,112	17,335
St. Francois	43,952	47,002	47,940	48,666	49,262	49,696
St. Louis	991,066	1,012,030	1,027,920	1,035,852	1,038,263	1,039,212
Saline	24,532	24,338	24,135	23,958	23,840	23,778
Schuyler	4,621	4,307	4,019	3,761	3,536	3,366
Scotland	5,190	5,003	4,808	4,613	4,450	4,318
Scott	40,255	40,930	41,450	41,845	42,212	42,619
Shannon	7,966	7,958	7,951	7,923	7,863	7,769
Shelby	7,397	6,936	6,477	6,037	5,659	5,345
Stoddard	28,738	28,589	28,331	27,970	27,577	27,218
Stone	17,470	19,345	20,991	22,348	23,436	24,229
Sullivan	7,044	6,659	6,303	5,977	5,718	5,518
Taney	23,780	26,800	29,502	31,923	34,084	35,861
Texas	21,519	22,080	22,608	23,145	23,733	24,403
Vernon	19,644	19,510	19,291	19,015	18,712	18,419
Warren	17,325	19,793	22,105	24,241	26,236	28,080
Washington	18,699	19,908	20,565	21,133	21,607	21,970
Wayne	11,749	12,216	12,578	12,825	12,957	12,990
Webster	22,161	24,291	26,374	28,265	29,935	31,435
Worth	2,774	2,550	2,331	2,110	1,912	1,739
Wright	16,565	16,856	17,069	17,262	17,475	17,693
St. Louis City	429,743	404,647	380,169	357,971	339,641	325,254

Appendix J

Appendix J

Included in this appendix are the responses from the Regions adjacent to Region 24, State of Missouri. Considering that some Regions have given conditional approval resulting from some very sensitive areas of frequency packing, it is my intention and the intention of the Committee to engage in very close pre-allocation coordination with all adjacent Regions.

Included also is a generic copy of the cover letter sent with the draft of our plan. All copies were sent certified and I have received all return receipts.

National Public Safety Planning Advisory Committee

NPSPAC REGION 24 MISSOURI

January 2, 1993

Addressees:

Region 4, Arkansas	Region 13, Illinois
Region 15, Iowa	Region 16, Kansas
Region 17, Kentucky	Region 26, Nebraska
Region 34, Oklahoma	Region 39, Tennessee

Dr. Mr. Chairperson:

Attached is the Final Draft of the Region 24 800Mhz Plan for the State of Missouri.

Please review this plan and reply if you do not concur, no later than (not 'post marked') January 20, 1993. If we have not heard from you by January-20, 1993 we will proceed with the process of submitting the plan to the FCC.

I apologize for the short review window, but many circumstances delayed our progress. I therefore not only make a personal appeal for your quick response, but appeal in the interest of Public Safety. Response by Fax would help but please follow up with original document by mail.

Thank you for your time and effort.

John R. Gerke
Chairman for Region 24
State of Missouri
800 mhz Planning
City of St. Louis Communications
4971 Oakland Ave.
St. Louis, Mo. 63110

V 314 533-5802
F 314 534-7059



Oklahoma Highway Patrol

FAX - 405/ 749-8146

CAPTAIN GARY D. ADAMS #9

FAX COVER SHEET

Date: 01-24-93

Number of pages including cover sheet: 1

TO: Region 24 (Missouri) NPS PAC FAX Number: 314/534-7059

ATTN: John R. Gerke

RE: Region 24 800 MHz Plan

REMARKS: Region 34 (Oklahoma) does not have any comments or conflicts with your region's plan.

Good luck - we look forward to being able to communicate with you on the National Call Channels.

CPT. GARY ADAMS #9

405/ 425-3683



800 MHz Region 13 Public-Safety Planning Committee

C/O: George Sneyd, Chairman
531 Sangamon Avenue, Springfield, Illinois 62702
Phone (217) 782-7345

January 15, 1993

Mr. John R. Gerke
Chairman for Region 24
State of Missouri
City of Saint Louis Communications
4971 Oakland Avenue
Saint Louis, Missouri 63110

Dear Mr. Gerke:

Upon reviewing your regional plan, we have concerns regarding some of the channel assignments. Many of the channel assignments will pose interference problems to the Region 13 area. Due to the large number of channel assignment conflicts and the fact that Region 13 already has an approved plan on file with the FCC, we believe that you should consider getting another frequency sort. We know that your Region is under a time constraint to get your plan filed and another frequency sort may not be possible at this time. It is not our intent to pose undue hardships on Region 24 but many of the channel assignments are not acceptable to us.

We do not concur with the assignments in the following counties:

<u>County</u>	<u>Channel(s)</u>
Bollinger	657, 695, 805
Boone	725
Butler	815
Callaway	612, 689, 725, 755
Cape Girardeau	657, 683, 695, 725, 805
Clark	736
Crawford	615, 617
Franklin	699, 802, 810, 813, 819
Gasconade	615, 617, 732, 768
Iron	695, 805
Jefferson	658, 661, 692, 699, 802, 808, 810, 813, 819
Lewis	698, 736
Lincoln	679, 718, 737, 762
Madison	657, 695, 805
Marion	623, 816
Mississippi	651, 689, 763
Montgomery	679, 762
Perry	619, 654, 657, 683, 695, 725, 805

Mr. John R. Gerke
January 15, 1993

Page 2

Pike	642, 682, 720, 794, 799, 814, 816
Ralls	623, 816
Scott	651, 689, 763
St. Charles	661, 692, 699, 802, 810, 813, 819
St. Francis	619, 657, 683, 695, 725, 805
Ste. Genevieve	619, 654, 657, 683, 695, 725, 728, 805
St. Louis	623, 644, 646, 648, 651, 653, 658, 661, 692, 699, 799, 801, 802, 807, 808, 810, 813, 818, 819
St. Louis (City)	658, 661, 692, 699, 802, 808, 810, 813, 819
Warren	679, 762
Washington	615, 617
Wayne	815

In addition to the above assignments, we have concerns with the assignments listed below. We would agree to these assignments provided that a provision is added to your plan stating that they could not be used in the listed county without the written concurrence of Region 13.

<u>County</u>	<u>Channel(s)</u>
Audrain	816
Callaway	651, 685
Cape Girardeau	619, 654, 770
Clark	698
Crawford	732
Franklin	658, 661, 692
Gasconade	622
Howard	725
Iron	619, 657
Lincoln	757, 764
Madison	619, 683, 725
Monroe	816
New Madrid	651, 689, 763
Osage	612, 689, 725, 755
Perry	770
Putnam	796
Ralls	794, 814
Reynolds	642
Scott	731
Shelby	816
Stoddard	651, 689, 731, 763
Sullivan	796
Warren	737, 757, 764
Washington	622, 732
Wayne	642, 678

Mr. John R. Gerke
January 15, 1993

Page 3

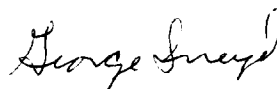
We also request that your plan state that the following channels would not be used in the listed counties without coordinating with Region 13, as these are adjacent areas using adjacent channels.

<u>County</u>	<u>Channel(s)</u>
Pike	623
Scott	785
St. Charles	751, 828
St. Louis	675
St. Louis (City)	751
Stoddard	785

Except for the items listed above, Region 13 has no objection to the Region 24 Plan. The RCRC of Region 13 is more than willing to work with Region 24 to resolve mutual problems/concerns.

If I can be of further assistance, please contact me at 217/782-7345.

Sincerely,



George Sneyd
Chairman
Illinois FCC Region 13

GS:vp

cc: Clarence Peecher
Stuart Marsh
Nelda Reifsteck
Gary Cochran
Lambert Fleck
Greg Abbott

TO: JOHN GERKE, MISSOURI REGION 24 NPSPAC COMMITTEE
 FROM: CARL FISHER, CHAIRMAN, REGION 16 NPSPAC COMMITTEE
 SUBJECT: RESPONSE TO REGION 24 PLAN, FINAL DRAFT

On behalf of the Region 16 Committee, we have no problem with the wording of the main body of your plan. Checking the frequency assignments, however, we note several definite and other likely conflicts which are noted here. Objection is made to assignment of the severe conflicts and very careful frequency coordination and consultation is requested for the likely conflicts.

MO County	KS County	channel	distance	conflict
Platte/Jackson	Jefferson	618	25	severe
Platte/Jackson	Johnson	620	-0-	very severe
Platte/Jackson	Jefferson	638	25	severe
Platte/Jackson	Wyandotte	656	-0-	very severe
Platte/Jackson	Leavenworth	732	-0-	very severe
Platte/Jackson	Shawnee	752	45	coordination
Platte/Jackson	Shawnee	770	45	coordination
Platte/Jackson	KS state wide	798	-0-	very severe
Platte/Jackson	Franklin	790	25	severe
Platte/Jackson	Franklin	810	25	severe
Andrew	Brown	634	35	severe
Daviess	Brown	796	45	coordination
Daviess	Atchison	780	45	coordination
Lafayette	Douglas	737	50	coordination
Johnson	Douglas	737	45	coordination
Johnson	Bourbon	625	40	severe
Newton	Crawford	619	25	very severe

I understand the time constraints on a repacking program. It may be necessary to repack the frequencies after the Plan has been accepted. We are very concerned about the apparent overlap in the channel assignments. There is some uncertainty about the exact coverage of the Missouri assignments because they were not done on a strictly County wide basis. Where coordination is requested, it will be necessary for both Region 16 and Region 24 to coordinate the affected channels when licensing systems because of probable interference. All systems in Region 16 were assigned on a County wide basis. Where coverage areas overlap, careful coordination between the frequency advisors is urgently requested.

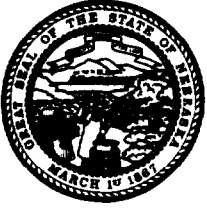
Sincerely,



Carl Fisher, Chairman
 Region 16 NPSPAC

Phone (316) 682 4537 (2432)
 Fax (316) 682 1201

STATE OF NEBRASKA



E. Benjamin Nelson
Governor

DEPARTMENT OF ADMINISTRATIVE SERVICES
Lawrence S. Primeau
Director

January 15, 1993

Mr. John R. Gerke
Chairman, Region 24
State of Missouri
800 MHz Planning
City of St. Louis Communications
4971 Oakland Ave.
St. Louis, MO 63110

Dear Mr. Gerke:

The Region 26 Review Committee has reviewed your regional plan.
We see no conflicts with the frequency assignments for your region.
Congratulations, and good luck.

Sincerely,

Michael D. Hogan
Chairman, Region 26
Review Committee

MH/bab

NATIONAL PUBLIC SAFETY PLANNING ADVISORY COMMITTEE

NPSFAC REGION 39
TENNESSEE

TENNESSEE REGION 39 CHAIRMAN

David Wolfe
TEMA
3041 Sidco Drive
Nashville, TN 37204
(615) 741-0001
(800) 262-3400 TN Only

TECHNICAL SUBCOMMITTEE

Ronald Ferris
City of Chattanooga
3300 1/2 Amnicola Hwy.
Electronic Dept.
Chattanooga, TN 37406
(615) 698-9703

OPERATIONS SUBCOMMITTEE

Roy Turner Neal
TDHE - EMS
287 Plus Park Blvd.
Nashville, TN 37217
(615) 267-6275

ADMINISTRATIVE SUBCOMMITTEE

John D. White, Jr.
TEMA
3041 Sidco Drive
Nashville, TN 37204
(615) 741-0001
(800) 262-3400 TN Only

January 14, 1993

Mr. John R. Gerke
Chairperson, Region 24
State of Missouri
800 MHz Planning
City of St. Louis Communications
4971 Oakland Avenue,
St. Louis, MO 63110

Dear Mr. Gerke:

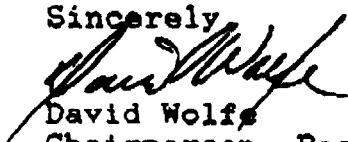
Reference your letter of January 2, 1992 requesting review and adjacent region concurrence of the Region 24 plan I am submitting this response.

Region 39 has reviewed and concurs with your plan. However, I would like to bring to your attention two channels that will require your local frequency advisors's close cooperation with the Tennessee local adviser upon frequency coordination. These channels are:

#763, Pemiscot and Dunklin Counties, 52 Miles from Hardeman Co. TN. #807, Pemiscot and Dunklin Counties, 63 Miles from Henderson Co. TN.

Thank you and good luck with your plan.

Sincerely,


David Wolfe
Chairperson, Region 39

Appendix K

National Public Safety Planning Advisory Committee

NPSPAC REGION 24 MISSOURI

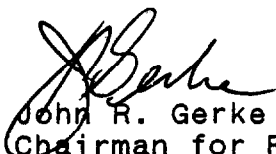
January 12, 1993

Addendum to Final Draft
NPSPAC Region 24
State of Missouri
800 mhz plan

Please note that there is additional information regarding the frequency sort for the State of Missouri, Region 24.

Jackson County Missouri - not listed in the original plan submitted to you - has the following channels that have been sorted for that region.

618	620	638	656	658	663	672
674	676	679	681	683	686	689
693	695	700	703	706	708	710
712	714	716	718	720	722	724
726	728	732	743	752	754	756
763	770	776	790	798	810	827
829						


John R. Gerke
Chairman for Region 24
State of Missouri
800 mhz Planning
City of St. Louis Communications
4971 Oakland Ave.
St. Louis, Mo. 63110

V 314 533-5802
F 314 534-7059

602	Texas	MO	Wright	MO
602	Shannon	MO	Douglas	MO
602	Howell	MO	Ozark	MO
602	Oregon	MO	Shannon	MO
603	Lafayette	MO	Saline	MO
603	Johnson	MO	Pettis	MO
605	Morgan	MO	Camden	MO
605	Laclede	MO	Miller	MO
605	Pulaski	MO		
607	Morgan	MO	Camden	MO
607	Laclede	MO	Miller	MO
607	Pulaski	MO		
609	Morgan	MO	Camden	MO
609	Laclede	MO	Miller	MO
609	Pulaski	MO		
610	Lincoln	MO	Warren	MO
610	Montgomery	MO		
611	Texas	MO	Wright	MO
611	Shannon	MO	Douglas	MO
611	Howell	MO	Ozark	MO
611	Oregon	MO	Shannon	MO
612	Howard	MO	Roone	MO
612	Callaway	MO	Cooper	MO
612	Cole	MO	Osage	MO
612	Moniteau	MO		
615	Gasconade	MO	Maries	MO
615	Phelps	MO	Dent	MO
615	Crawford	MO	Washington	MO
616	Lafayette	MO	Saline	MO
616	Johnson	MO	Pettis	MO
617	Gasconade	MO	Maries	MO
617	Phelps	MO	Dent	MO
617	Crawford	MO	Washington	MO
618	Platte	MO		

618 Continued

618	Clay	MO		

619	Barton	MO	Jasper	MO
619	Newton	MO	McDonald	MO
619	Perry	MO	Ste. Genevieve	MO
619	St. Francis	MO	Iron	MO
619	Madison	MO	Bollinger	MO
619	Cape Girardeau	MO		

620	Platte	MO	Clay	MO

622	Gasconade	MO	Maries	MO
622	Phelps	MO	Dent	MO
622	Crawford	MO	Washington	MO

623	Macon	MO	Shelby	MO
623	Marion	MO	Randolph	MO
623	Monroe	MO	Ralls	MO
623	Pike	MO	Andrain	MO
623	Polk	MO	Dallas	MO
623	Webster	MO	Dade	MO
623	Greene	MO	Lawrence	MO
623	Christian	MO	Stone	MO
623	Barry	MO	Stone	MO
623	Taney	MO	St. Louis	MO

625	Lafayette	MO	Saline	MO
625	Johnson	MO	Pettis	MO

627	Lafayette	MO	Saline	MO
627	Johnson	MO	Pettis	MO

628	Polk	MO	Dallas	MO
628	Webster	MO	Dade	MO
628	Greene	MO	Lawrence	MO
628	Christian	MO	Stone	MO
628	Barry	MO	Stone	MO
628	Taney	MO		

629	Harrison	MO	Mercer	MO
629	Putnam	MO	Sullivan	MO
629	Linn	MO	Grundy	MO
629	Daviess	MO	Caldwell	MO
629	Livingston	MO	Carroll	MO
629	Chariton	MO		

629 Continued

630	Texas	MO	Wright	MO
630	Shannon	MO	Douglas	MO
630	Howell	MO	Ozark	MO
630	Oregon	MO	Shannon	MO
631	Bates	MO	Vernon	MO
631	Henry	MO	St. Clair	MO
631	Cedar	MO	Benton	MO
631	Hickory	MO	Andrew	MO
631	De Kalb	MO	Clinton	MO
631	Buchanan	MO		
632	Texas	MO	Wright	MO
632	Shannon	MO	Douglas	MO
632	Howell	MO	Ozark	MO
632	Oregon	MO	Shannon	MO
633	Lafayette	MO	Saline	MO
633	Johnson	MO	Pettis	MO
633	St. Louis	MO		
634	Andrew	MO	De Kalb	MO
634	Clinton	MO	Buchanan	MO
635	St. Louis	MO		
636	Lafayette	MO	Saline	MO
636	Johnson	MO	Pettis	MO
637	St. Louis	MO		
638	Platte	MO	Clay	MO
641	Polk	MO	Dallas	MO
641	Webster	MO	Dade	MO
641	Greene	MO	Lawrence	MO
641	Christian	MO	Stone	MO
641	Barry	MO	Stone	MO
641	Taney	MO		
642	Reynolds	MO	Wayne	MO
642	Carter	MO	Butler	MO
642	Ripley	MO	Butler	MO
642	Macon	MO		

642 Continued

642	Shelby	MO	Marion	MO
642	Randolph	MO	Monroe	MO
642	Ralls	MO	Pike	MO
642	Audrain	MO		

643	Polk	MO	Dallas	MO
643	Webster	MO	Dade	MO
643	Greene	MO	Lawrence	MO
643	Christian	MO	Stone	MO
643	Barry	MO	Stone	MO
643	Taney	MO		

644	St. Louis	MO		
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645	Bates	MO	Vernon	MO
645	Henry	MO	St. Clair	MO
645	Cedar	MO	Benton	MO
645	Hickory	MO	Harrison	MO
645	Mercer	MO	Putnam	MO
645	Sullivan	MO	Linn	MO
645	Grundy	MO	Daviess	MO
645	Caldwell	MO	Livingston	MO
645	Carroll	MO	Chariton	MO

646	St. Louis	MO		
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647	Harrison	MO	Mercer	MO
647	Putnam	MO	Sullivan	MO
647	Linn	MO	Grundy	MO
647	Daviess	MO	Caldwell	MO
647	Livingston	MO	Carroll	MO
647	Chariton	MO		

648	St. Louis	MO		
-----	-----------	----	--	--

649	Gasconade	MO	Maries	MO
649	Phelps	MO	Dent	MO
649	Crawford	MO	Washington	MO
649	Andrew	MO	De Kalb	MO
649	Clinton	MO	Buchanan	MO

651	Howard	MO	Boone	MO
651	Callaway	MO	Cooper	MO
651	Cole	MO	Osage	MO
651	Moniteau	MO		

651 Continued

651	Scott	MO	Stoddard	MO
651	Mississippi	MO	New Madrid	MO
651	Dunklin	MO	Pewiscot	MO
651	St. Louis	MO		

653	Howard	MO	Boone	MO
653	Callaway	MO	Cooper	MO
653	Cole	MO	Osage	MO
653	Moniteau	MO	St. Louis	MO

654	Perry	MO	Ste. Genevieve	MO
654	St. Francis	MO	Iron	MO
654	Madison	MO	Bollinger	MO
654	Cape Girardeau	MO		

656	Platte	MO	Clay	MO

657	Barton	MO	Jasper	MO
657	Newton	MO	McDonald	MO
657	Perry	MO	Ste. Genevieve	MO
657	St. Francis	MO	Iron	MO
657	Madison	MO	Bollinger	MO
657	Cape Girardeau	MO		

658	Platte	MO	Clay	MO
658	Franklin	MO	St. Louis City	MO
658	St. Louis	MO	Jefferson	MO
658	St. Charles	MO		

660	Macon	MO	Shelby	MO
660	Marion	MO	Randolph	MO
660	Monroe	MO	Ralls	MO
660	Pike	MO	Andrain	MO
660	St. Louis	MO		

661	Atchison	MO	Nodaway	MO
661	Worth	MO	Gentry	MO
661	Holt	MO	Polk	MO
661	Dallas	MO	Webster	MO
661	Dade	MO	Greene	MO
661	Lawrence	MO	Christian	MO
661	Stone	MO	Barry	MO
661	Stone	MO	Taney	MO
661	Franklin	MO	St. Louis City	MO
661	St. Louis	MO		

661 Continued

661	Jefferson	MO	St. Charles	MO

663	Polk	MO	Dallas	MO
663	Webster	MO	Dade	MO
663	Greene	MO	Lawrence	MO
663	Christian	MO	Stone	MO
663	Barry	MO	Stone	MO
663	Faney	MO	Platte	MO
663	Clay	MO		

665	Morgan	MO	Camden	MO
665	Laclede	MO	Miller	MO
665	Pulaski	MO		

666	Harrison	MO	Mercer	MO
666	Putnam	MO	Sullivan	MO
666	Linn	MO	Grundy	MO
666	Daviess	MO	Caldwell	MO
666	Livingston	MO	Carroll	MO
666	Chariton	MO		

667	Bates	MO	Vernon	MO
667	Henry	MO	St. Clair	MO
667	Cedar	MO	Benton	MO
667	Hickory	MO		

668	Harrison	MO	Mercer	MO
668	Putnam	MO	Sullivan	MO
668	Linn	MO	Grundy	MO
668	Daviess	MO	Caldwell	MO
668	Livingston	MO	Carroll	MO
668	Chariton	MO		

670	Howard	MO	Roone	MO
670	Callaway	MO	Cooper	MO
670	Cole	MO	Osage	MO
670	Moniteau	MO		

671	St. Louis	MO		

672	Howard	MO	Boone	MO
672	Callaway	MO	Cooper	MO
672	Cole	MO	Osage	MO
672	Moniteau	MO	Platte	MO
672	Clay	MO		

672 Continued

673	Barton	MO	Jasper	MO
673	Newton	MO	McDonald	MO
673	St. Louis	MO		
674	Howard	MO	Boone	MO
674	Callaway	MO	Cooper	MO
674	Cole	MO	Osage	MO
674	Moniteau	MO	Platte	MO
674	Clay	MO		
675	St. Louis	MO		
676	Platte	MO	Clay	MO
678	Reynolds	MO	Wayne	MO
678	Carter	MO	Butler	MO
678	Ripley	MO	Butler	MO
678	Polk	MO	Dallas	MO
678	Webster	MO	Dade	MO
678	Greene	MO	Lawrence	MO
678	Christian	MO	Stone	MO
678	Barry	MO	Stone	MO
678	Taney	MO		
679	Schuyler	MO	Scotland	MO
679	Clark	MO	Lewis	MO
679	Knox	MO	Adair	MO
679	Lincoln	MO	Warren	MO
679	Montgomery	MO	Platte	MO
679	Clay	MO		
680	Reynolds	MO	Wayne	MO
680	Carter	MO	Butler	MO
680	Ripley	MO	Butler	MO
680	Polk	MO	Dallas	MO
680	Webster	MO	Dade	MO
680	Greene	MO	Lawrence	MO
680	Christian	MO	Stone	MO
680	Barry	MO	Stone	MO
680	Taney	MO		
681	Platte	MO	Clay	MO
682	Morgan	MO		

682 Continued

682	Camden	MO	Laclede	MO
682	Miller	MO	Pulaski	MO
682	Macon	MO	Shelby	MO
682	Marion	MO	Randolph	MO
682	Monroe	MO	Ralls	MO
682	Pike	MO	Audrain	MO

683	Perry	MO	Ste. Genevieve	MO
683	St. Francis	MO	Iron	MO
683	Madison	MO	Bollinger	MO
683	Cape Girardeau	MO	Platte	MO
683	Clay	MO		

684	Polk	MO	Dallas	MO
684	Webster	MO	Dade	MO
684	Greene	MO	Lawrence	MO
684	Christian	MO	Stone	MO
684	Barry	MO	Stone	MO
684	Taney	MO		

685	Howard	MO	Boone	MO
685	Callaway	MO	Cooper	MO
685	Cole	MO	Osage	MO
685	Moniteau	MO		

686	Barton	MO	Jasper	MO
686	Newton	MO	McDonald	MO
686	Platte	MO	Clay	MO

687	Lincoln	MO	Warren	MO
687	Montgomery	MO		

689	Howard	MO	Boone	MO
689	Callaway	MO	Cooper	MO
689	Cole	MO	Osage	MO
689	Moniteau	MO	Scott	MO
689	Stoddard	MO	Mississippi	MO
689	New Madrid	MO	Dunklin	MO
689	Pemiscot	MO	Platte	MO
689	Clay	MO		

691	St. Louis	MO		

692	Franklin	MO	St. Louis City	MO
692	St. Louis	MO		

692 Continued

692	Jefferson	MO	St. Charles	MO

693	Scott	MO	Stoddard	MO
693	Mississippi	MO	New Madrid	MO
693	Dunklin	MO	Pewisot	MO
693	Platte	MO	Clay	MO

695	Barton	MO	Jasper	MO
695	Newton	MO	McDonald	MO
695	Perry	MO	Ste. Genevieve	MO
695	St. Francis	MO	Iron	MO
695	Madison	MO	Bollinger	MO
695	Cape Girardeau	MO	Platte	MO
695	Clay	MO		

698	Reynolds	MO	Wayne	MO
698	Carter	MO	Butler	MO
698	Ripley	MO	Butler	MO
698	Schuyler	MO	Scotland	MO
698	Clark	MO	Lewis	MO
698	Knox	MO	Adair	MO
698	Polk	MO	Dallas	MO
698	Webster	MO	Dade	MO
698	Greene	MO	Lawrence	MO
698	Christian	MO	Stone	MO
698	Barry	MO	Stone	MO
698	Taney	MO	St. Louis	MO

699	Franklin	MO	St. Louis City	MO
699	St. Louis	MO	Jefferson	MO
699	St. Charles	MO		

700	Polk	MO	Dallas	MO
700	Webster	MO	Dade	MO
700	Greene	MO	Lawrence	MO
700	Christian	MO	Stone	MO
700	Barry	MO	Stone	MO
700	Taney	MO	Platte	MO
700	Clay	MO		

701	Atchison	MO	Nodaway	MO
701	Worth	MO	Gentry	MO
701	Holt	MO		

702	Polk	MO		

702 Continued

702	Dallas	MO	Webster	MO
702	Dade	MO	Greene	MO
702	Lawrence	MO	Christian	MO
702	Stone	MO	Barry	MO
702	Stone	MO	Taney	MO

703	Platte	MO	Clay	MO
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704	Polk	MO	Dallas	MO
704	Webster	MO	Dade	MO
704	Greene	MO	Lawrence	MO
704	Christian	MO	Stone	MO
704	Barry	MO	Stone	MO
704	Taney	MO		

706	Texas	MO	Wright	MO
706	Shannon	MO	Douglas	MO
706	Howell	MO	Ozark	MO
706	Oregon	MO	Shannon	MO
706	Platte	MO	Clay	MO

708	Howard	MO	Boone	MO
708	Callaway	MO	Cooper	MO
708	Cole	MO	Osage	MO
708	Moniteau	MO	Platte	MO
708	Clay	MO		

709	St. Louis	MO		
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710	Howard	MO	Boone	MO
710	Callaway	MO	Cooper	MO
710	Cole	MO	Osage	MO
710	Moniteau	MO	Platte	MO
710	Clay	MO		

711	St. Louis	MO		
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712	Barton	MO	Jasper	MO
712	Newton	MO	McDonald	MO
712	Platte	MO	Clay	MO
712	Franklin	MO	St. Louis City	MO
712	St. Louis	MO	Jefferson	MO
712	St. Charles	MO		

714	Barton	MO		
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714 Continued

714	Jasper	MO	Newton	MO
714	McDonald	MO	Platte	MO
714	Clay	MO		

716	Polk	MO	Dallas	MO
716	Webster	MO	Dade	MO
716	Greene	MO	Lawrence	MO
716	Christian	MO	Stone	MO
716	Barry	MO	Stone	MO
716	Taney	MO	Platte	MO
716	Clay	MO		

717	Atchison	MO	Nodaway	MO
717	Worth	MO	Gentry	MO
717	Holt	MO		

718	Reynolds	MO	Wayne	MO
718	Carter	MO	Butler	MO
718	Ripley	MO	Butler	MO
718	Lincoln	MO	Warren	MO
718	Montgomery	MO	Polk	MO
718	Dallas	MO	Webster	MO
718	Dade	MO	Greene	MO
718	Lawrence	MO	Christian	MO
718	Stone	MO	Barry	MO
718	Stone	MO	Taney	MO
718	Platte	MO	Clay	MO

720	Morgan	MO	Camden	MO
720	Laclede	MO	Miller	MO
720	Pulaski	MO	Macon	MO
720	Shelby	MO	Marion	MO
720	Randolph	MO	Monroe	MO
720	Ralls	MO	Pike	MO
720	Andrain	MO	Platte	MO
720	Clay	MO		

722	Howard	MO	Boone	MO
722	Callaway	MO	Cooper	MO
722	Cole	MO	Osage	MO
722	Moniteau	MO	Schuyler	MO
722	Scotland	MO	Clark	MO
722	Lewis	MO	Knox	MO
722	Adair	MO	Polk	MO
722	Dallas	MO		

722 Continued

722	Webster	MO	Dade	MO
722	Greene	MO	Lawrence	MO
722	Christian	MO	Stone	MO
722	Barry	MO	Stone	MO
722	Taney	MO	Platte	MO
722	Clay	MO		

724	Texas	MO	Wright	MO
724	Shannon	MO	Douglas	MO
724	Howell	MO	Ozark	MO
724	Oregon	MO	Shannon	MO
724	Barton	MO	Jasper	MO
724	Newton	MO	McDonald	MO
724	Platte	MO	Clay	MO
724	St. Louis	MO		

725	Howard	MO	Boone	MO
725	Callaway	MO	Cooper	MO
725	Cole	MO	Osage	MO
725	Moniteau	MO	Perry	MO
725	Ste. Genevieve	MO	St. Francis	MO
725	Iron	MO	Madison	MO
725	Bollinger	MO	Cape Girardeau	MO

726	Barton	MO	Jasper	MO
726	Newton	MO	McDonald	MO
726	Platte	MO	Clay	MO

727	Howard	MO	Boone	MO
727	Callaway	MO	Cooper	MO
727	Cole	MO	Osage	MO
727	Moniteau	MO		

728	Perry	MO	Ste. Genevieve	MO
728	St. Francis	MO	Iron	MO
728	Madison	MO	Bollinger	MO
728	Cape Girardeau	MO	Platte	MO
728	Clay	MO		

730	Gasconade	MO	Maries	MO
730	Phelps	MO	Dent	MO
730	Crawford	MO	Washington	MO
730	Lafayette	MO	Saline	MO
730	Johnson	MO	Pettis	MO

731	Scott	MO		
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731 Continued

731	Stoddard	MO	Mississippi	MO
731	New Madrid	MO	Dunklin	MO
731	Peniscot	MO		

732	Gasconade	MO	Maries	MO
732	Phelps	MO	Dent	MO
732	Crawford	MO	Washington	MO
732	Platte	MO	Clay	MO

733	Barton	MO	Jasper	MO
733	Newton	MO	McDonald	MO
733	Scott	MO	Stoddard	MO
733	Mississippi	MO	New Madrid	MO
733	Dunklin	MO	Peniscot	MO

736	Atchison	MO	Nodaway	MO
736	Worth	MO	Gentry	MO
736	Holt	MO	Schuyler	MO
736	Scotland	MO	Clark	MO
736	Lewis	MO	Knox	MO
736	Adair	MO	Polk	MO
736	Dallas	MO	Webster	MO
736	Dade	MO	Greene	MO
736	Lawrence	MO	Christian	MO
736	Stone	MO	Barry	MO
736	Stone	MO	Taney	MO

737	Reynolds	MO	Wayne	MO
737	Carter	MO	Butler	MO
737	Ripley	MO	Butler	MO
737	Lafayette	MO	Saline	MO
737	Johnson	MO	Pettis	MO
737	Lincoln	MO	Warren	MO
737	Montgomery	MO		

738	Atchison	MO	Nodaway	MO
738	Worth	MO	Gentry	MO
738	Holt	MO		

739	Polk	MO	Dallas	MO
739	Webster	MO	Dade	MO
739	Greene	MO	Lawrence	MO
739	Christian	MO	Stone	MO
739	Barry	MO	Stone	MO
739	Taney	MO		

739 Continued

740	Harrison	MO	Mercer	MO
740	Putnam	MO	Sullivan	MO
740	Linn	MO	Grundy	MO
740	Daviess	MO	Caldwell	MO
740	Livingston	MO	Carroll	MO
740	Chariton	MO		

741	Texas	MO	Wright	MO
741	Shannon	MO	Douglas	MO
741	Howell	MO	Ozark	MO
741	Oregon	MO	Shannon	MO

742	Bates	MO	Vernon	MO
742	Henry	MO	St. Clair	MO
742	Cedar	MO	Benton	MO
742	Hickory	MO		

743	Texas	MO	Wright	MO
743	Shannon	MO	Douglas	MO
743	Howell	MO	Ozark	MO
743	Oregon	MO	Shannon	MO
743	Platte	MO	Clay	MO

744	Bates	MO	Vernon	MO
744	Henry	MO	St. Clair	MO
744	Cedar	MO	Benton	MO
744	Hickory	MO		

748	St. Louis	MO		

749	Gasconade	MO	Maries	MO
749	Phelps	MO	Dent	MO
749	Crawford	MO	Washington	MO

750	Lafayette	MO	Saline	MO
750	Johnson	MO	Pettis	MO
750	St. Louis	MO		

751	Scott	MO	Stoddard	MO
751	Mississippi	MO	New Madrid	MO
751	Dunklin	MO	Pemiscot	MO
751	Franklin	MO	St. Louis City	MO
751	St. Louis	MO	Jefferson	MO
751	St. Charles	MO		

751 Continued

752	Platte	MO	Clay	MO
754	Polk	MO	Dallas	MO
754	Webster	MO	Dade	MO
754	Greene	MO	Lawrence	MO
754	Christian	MO	Stone	MO
754	Barry	MO	Stone	MO
754	Taney	MO	Platte	MO
754	Clay	MO		
755	Howard	MO	Boone	MO
755	Callaway	MO	Cooper	MO
755	Cole	MO	Osage	MO
755	Moniteau	MO	Reynolds	MO
755	Wayne	MO	Carter	MO
755	Butler	MO	Ripley	MO
755	Butler	MO	Atchison	MO
755	Wodaway	MO	Worth	MO
755	Gentry	MO	Holt	MO
756	Schuyler	MO	Scotland	MO
756	Clark	MO	Lewis	MO
756	Knox	MO	Adair	MO
756	Polk	MO	Dallas	MO
756	Webster	MO	Dade	MO
756	Greene	MO	Lawrence	MO
756	Christian	MO	Stone	MO
756	Barry	MO	Stone	MO
756	Taney	MO	Platte	MO
756	Clay	MO		
757	Reynolds	MO	Wayne	MO
757	Carter	MO	Butler	MO
757	Ripley	MO	Butler	MO
757	Lincoln	MO	Warren	MO
757	Montgomery	MO		
758	Bates	MO	Vernon	MO
758	Henry	MO	St. Clair	MO
758	Cedar	MO	Benton	MO
758	Hickory	MO	Schuyler	MO
758	Scotland	MO	Clark	MO
758	Lewis	MO	Knox	MO
758	Adair	MO		

758 Continued

759	Gasconade	MO	Maries	MO
759	Phelps	MO	Dent	MO
759	Crawford	MO	Washington	MO

760	Harrison	MO	Mercer	MO
760	Putnam	MO	Sullivan	MO
760	Linn	MO	Grundy	MO
760	Daviess	MO	Caldwell	MO
760	Livingston	MO	Carroll	MO
760	Chariton	MO		

762	Bates	MO	Vernon	MO
762	Henry	MO	St. Clair	MO
762	Cedar	MO	Benton	MO
762	Hickory	MO	Lincoln	MO
762	Warren	MO	Montgomery	MO

763	Scott	MO	Stoddard	MO
763	Mississippi	MO	New Madrid	MO
763	Dunklin	MO	Pemiscot	MO
763	Platte	MO	Clay	MO

764	Lincoln	MO	Warren	MO
764	Montgomery	MO		

766	Perry	MO	Ste. Genevieve	MO
766	St. Francis	MO	Iron	MO
766	Madison	MO	Bollinger	MO
766	Cape Girardeau	MO		

768	Gasconade	MO	Maries	MO
768	Phelps	MO	Dent	MO
768	Crawford	MO	Washington	MO

770	Perry	MO	Ste. Genevieve	MO
770	St. Francis	MO	Iron	MO
770	Madison	MO	Bollinger	MO
770	Cape Girardeau	MO	Platte	MO
770	Clay	MO		

774	Bates	MO	Vernon	MO
774	Henry	MO	St. Clair	MO
774	Cedar	MO	Benton	MO
774	Hickory	MO		

774 Continued

774	Atchison	MO	Nodaway	MO
774	Worth	MO	Gentry	MO
774	Holt	MO	Nacon	MO
774	Shelby	MO	Marion	MO
774	Randolph	MO	Monroe	MO
774	Ralls	MO	Pike	MO
774	Audrain	MO		

776	Nacon	MO	Shelby	MO
776	Marion	MO	Randolph	MO
776	Monroe	MO	Ralls	MO
776	Pike	MO	Audrain	MO
776	Polk	MO	Dallas	MO
776	Webster	MO	Dade	MO
776	Greene	MO	Lawrence	MO
776	Christian	MO	Stone	MO
776	Barry	MO	Stone	MO
776	Taney	MO	Platte	MO
776	Clay	MO	St. Louis	MO

778	Bates	MO	Vernon	MO
778	Henry	MO	St. Clair	MO
778	Cedar	MO	Benton	MO
778	Hickory	MO	Schuyler	MO
778	Scotland	MO	Clark	MO
778	Lewis	MO	Knox	MO
778	Adair	MO	St. Louis	MO

779	Texas	MO	Wright	MO
779	Shannon	MO	Douglas	MO
779	Howell	MO	Ozark	MO
779	Oregon	MO	Shannon	MO
779	Franklin	MO	St. Louis City	MO
779	St. Louis	MO	Jefferson	MO
779	St. Charles	MO		

780	Harrison	MO	Mercer	MO
780	Putnam	MO	Sullivan	MO
780	Linn	MO	Grundy	MO
780	Daviess	MO	Caldwell	MO
780	Livingston	MO	Carroll	MO
780	Chariton	MO		

781	Morgan	MO	Camden	MO
781	Laclede	MO		

781 Continued

781	Miller	MO	Pulaski	MO

783	Texas	MO	Wright	MO
783	Shannon	MO	Douglas	MO
783	Howell	MO	Ozark	MO
783	Oregon	MO	Shannon	MO

784	Howard	MO	Boone	MO
784	Callaway	MO	Cooper	MO
784	Cole	MO	Osage	MO
784	Moniteau	MO		

785	Scott	MO	Stoddard	MO
785	Mississippi	MO	New Madrid	MO
785	Dunklin	MO	Pemiscot	MO
785	St. Louis	MO		

788	Franklin	MO	St. Louis City	MO
788	St. Louis	MO	Jefferson	MO
788	St. Charles	MO		

790	Platte	MO	Clay	MO

794	Morgan	MO	Camden	MO
794	Laclede	MO	Miller	MO
794	Pulaski	MO	Macon	MO
794	Shelby	MO	Marion	MO
794	Randolph	MO	Monroe	MO
794	Ralls	MO	Pike	MO
794	Audrain	MO		

796	Harrison	MO	Mercer	MO
796	Putnam	MO	Sullivan	MO
796	Linn	MO	Grundy	MO
796	Daviess	MO	Caldwell	MO
796	Livingston	MO	Carroll	MO
796	Chariton	MO	Polk	MO
796	Dallas	MO	Webster	MO
796	Dade	MO	Greene	MO
796	Lawrence	MO	Christian	MO
796	Stone	MO	Barry	MO
796	Stone	MO	Taney	MO

798	Morgan	MO		

798 Continued

798	Cawden	MO	Laclede	MO
798	Miller	MO	Pulaski	MO
798	Platte	MO	Clay	MO

799	Macon	MO	Shelby	MO
799	Marion	MO	Randolph	MO
799	Monroe	MO	Ralls	MO
799	Pike	MO	Audrain	MO
799	St. Louis	MO		

800	Perry	MO	Ste. Genevieve	MO
800	St. Francis	MO	Iron	MO
800	Madison	MO	Bollinger	MO
800	Cape Girardeau	MO		

801	Polk	MO	Dallas	MO
801	Webster	MO	Dade	MO
801	Greene	MO	Lawrence	MO
801	Christian	MO	Stone	MO
801	Barry	MO	Stone	MO
801	Taney	MO	St. Louis	MO

802	Franklin	MO	St. Louis City	MO
802	St. Louis	MO	Jefferson	MO
802	St. Charles	MO		

804	Howard	MO	Boone	MO
804	Callaway	MO	Cooper	MO
804	Cole	MO	Osage	MO
804	Moniteau	MO		

805	Perry	MO	Ste. Genevieve	MO
805	St. Francis	MO	Iron	MO
805	Madison	MO	Bollinger	MO
805	Cape Girardeau	MO		

807	Scott	MO	Stoddard	MO
807	Mississippi	MO	New Madrid	MO
807	Dunklin	MO	Pemiscot	MO
807	St. Louis	MO		

808	Franklin	MO	St. Louis City	MO
808	St. Louis	MO	Jefferson	MO
808	St. Charles	MO		

810	Platte	MO		

810 Continued

810	Clay	MO	Franklin	MO
810	St. Louis City	MO	St. Louis	MO
810	Jefferson	MO	St. Charles	MO

813	Franklin	MO	St. Louis City	MO
813	St. Louis	MO	Jefferson	MO
813	St. Charles	MO		

814	Morgan	MO	Camden	MO
814	Laclede	MO	Miller	MO
814	Pulaski	MO	Macon	MO
814	Shelby	MO	Marion	MO
814	Randolph	MO	Monroe	MO
814	Ralls	MO	Pike	MO
814	Audrain	MO		

815	Reynolds	MO	Wayne	MO
815	Carter	MO	Butler	MO
815	Ripley	MO	Butler	MO

816	Macon	MO	Shelby	MO
816	Marion	MO	Randolph	MO
816	Monroe	MO	Ralls	MO
816	Pike	MO	Audrain	MO
816	Polk	MO	Dallas	MO
816	Webster	MO	Dade	MO
816	Greene	MO	Lawrence	MO
816	Christian	MO	Stone	MO
816	Barry	MO	Stone	MO
816	Taney	MO		

818	Morgan	MO	Camden	MO
818	Laclede	MO	Miller	MO
818	Pulaski	MO	St. Louis	MO

819	Scott	MO	Stoddard	MO
819	Mississippi	MO	New Madrid	MO
819	Dunklin	MO	Pemiscot	MO
819	Franklin	MO	St. Louis City	MO
819	St. Louis	MO	Jefferson	MO
819	St. Charles	MO		

820	Morgan	MO	Camden	MO
820	Laclede	MO	Miller	MO
820	Pulaski	MO		

820 Continued

824	Howard	MO	Boone	MO
824	Callaway	MO	Cooper	MO
824	Cole	MO	Osage	MO
824	Moniteau	MO		

825	St. Louis	MO		

826	Perry	MO	Ste. Genevieve	MO
826	St. Francis	MO	Iron	MO
826	Madison	MO	Bollinger	MO
826	Cape Girardeau	MO		

827	Barton	MO	Jasper	MO
827	Newton	MO	McDonald	MO
827	Platte	MO	Clay	MO
827	St. Louis	MO		

828	Franklin	MO	St. Louis City	MO
828	St. Louis	MO	Jefferson	MO
828	St. Charles	MO		

829	Platte	MO	Clay	MO

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Texas	602 743	611 779	630 783	632	706	724	741
Wright	602 743	611 779	630 783	632	706	724	741
Shannon	602 743	611 779	630 783	632	706	724	741
Douglas	602 743	611 779	630 783	632	706	724	741
Howell	602 743	611 779	630 783	632	706	724	741
Ozark	602 743	611 779	630 783	632	706	724	741
Oregon	602 743	611 779	630 783	632	706	724	741
Lafayette	603 737	616 750	625	627	633	636	730
Saline	603 737	616 750	625	627	633	636	730
Johnson	603 737	616 750	625	627	633	636	730

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Pettis	603 737	616 750	625	627	633	636	730
Morgan	605 794	607 798	609 814	665 818	682 820	720	781
Camden	605 794	607 798	609 814	665 818	682 820	720	781
Laclede	605 794	607 798	609 814	665 818	682 820	720	781
Miller	605 794	607 798	609 814	665 818	682 820	720	781
Pulaski	605 794	607 798	609 814	665 818	682 820	720	781
Lincoln	610 764	679	687	718	737	757	762
Warren	610 764	679	687	718	737	757	762
Montgomery	610 764	679	687	718	737	757	762
Howard	612 689 784	651 708 804	653 710 824	670 722	672 725	674 727	685 755

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Howard

Boone	612	651	653	670	672	674	685
	689	708	710	722	725	727	755
	784	804	824				

Callaway	612	651	653	670	672	674	685
	689	708	710	722	725	727	755
	784	804	824				

Cooper	612	651	653	670	672	674	685
	689	708	710	722	725	727	755
	784	804	824				

Cole	612	651	653	670	672	674	685
	689	708	710	722	725	727	755
	784	804	824				

Osage	612	651	653	670	672	674	685
	689	708	710	722	725	727	755
	784	804	824				

Moniteau	612	651	653	670	672	674	685
	689	708	710	722	725	727	755
	784	804	824				

Gasconade	615	617	622	649	730	732	749
	759	768					

Maries	615	617	622	649	730	732	749
	759	768					

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Phelps	615	617	622	649	730	732	749
	759	768					

Dent	615	617	622	649	730	732	749
	759	768					

Crawford	615	617	622	649	730	732	749
	759	768					

Washington	615	617	622	649	730	732	749
	759	768					

Platte	618	620	638	656	658	663	672
	674	676	679	681	683	686	689
	693	695	700	703	706	708	710
	712	714	716	718	720	722	724
	726	728	732	743	752	754	756
	763	770	776	790	798	810	827
	829						

Clay	618	620	638	656	658	663	672
	674	676	679	681	683	686	689
	693	695	700	703	706	708	710
	712	714	716	718	720	722	724
	726	728	732	743	752	754	756
	763	770	776	790	798	810	827
	829						

Barton	619	657	673	686	695	712	714
	724	726	733	827			

Jasper	619	657	673	686	695	712	714
	724	726	733	827			

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Newton	619 724	657 726	673 733	686 827	695	712	714
McDonald	619 724	657 726	673 733	686 827	695	712	714
Perry	619 766	654 770	657 800	683 805	695 826	725	728
Ste. Genevieve	619 766	654 770	657 800	683 805	695 826	725	728
St. Francis	619 766	654 770	657 800	683 805	695 826	725	728
Iron	619 766	654 770	657 800	683 805	695 826	725	728
Madison	619 766	654 770	657 800	683 805	695 826	725	728
Bollinger	619 766	654 770	657 800	683 805	695 826	725	728
Cape Girardeau	619 766	654 770	657 800	683 805	695 826	725	728
Macon	623 794	642 799	660 814	682 816	720	774	776

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Shelby	623 794	642 799	660 814	682 816	720	774	776
Marion	623 794	642 799	660 814	682 816	720	774	776
Randolph	623 794	642 799	660 814	682 816	720	774	776
Monroe	623 794	642 799	660 814	682 816	720	774	776
Ralls	623 794	642 799	660 814	682 816	720	774	776
Pike	623 794	642 799	660 814	682 816	720	774	776
Audrain	623 794	642 799	660 814	682 816	720	774	776
Polk	623 680 718 796	628 684 722 801	641 698 736 816	643 700 739	661 702 754	663 704 756	678 716 776
Dallas	623 680 718 796	628 684 722 801	641 698 736 816	643 700 739	661 702 754	663 704 756	678 716 776

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Webster	623	628	641	643	661	663	678
	680	684	698	700	702	704	716
	718	722	736	739	754	756	776
e		623	628	641	643	661	663
	680	684	698	700	702	704	716
	718	722	736	739	754	756	776
	796	801	816				

678

Lawrence	623	628	641	643	661	663	678
	680	684	698	700	702	704	716
	718	722	736	739	754	756	776
	796	801	816				

Christian	623	628	641	643	661	663	678
	680	684	698	700	702	704	716
	718	722	736	739	754	756	776
	796	801	816				

Stone	623	628	641	643	661	663	678
	680	684	698	700	702	704	716
	718	722	736	739	754	756	776
	796	801	816				

Barry	623	628	641	643	661	663	678
	680	684	698	700	702	704	716
	718	722	736	739	754	756	776

Printout of state :

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Barry	801	816					
<hr/>							
Taney	623	628	641	643	661	663	678
	680	684	698	700	702	704	716
	718	722	736	739	754	756	776
	796	801	816				
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St. Louis	623	633	635	637	644	646	648
	651	653	658	660	661	671	673
	675	691	692	698	699	709	711
	712	724	748	750	751	776	778
	779	785	787	788	799	801	802
	807	808	810	813	818	819	825
	827	828					
<hr/>							
Harrison	629	645	647	666	668	740	760
	780	796					
<hr/>							
Mercer	629	645	647	666	668	740	760
	780	796					
<hr/>							
Putnam	629	645	647	666	668	740	760
	780	796					
<hr/>							
Sullivan	629	645	647	666	668	740	760
	780	796					
<hr/>							
Linn	629	645	647	666	668	740	760
	780	796					
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Grundy	629	645	647	666	668	740	760
	780	796					

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Grundy

Daviess	629 780	645 796	647	666	668	740	760
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Caldwell	629 780	645 796	647	666	668	740	760
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Livingston	629 780	645 796	647	666	668	740	760
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Carroll	629 780	645 796	647	666	668	740	760
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Chariton	629 780	645 796	647	666	668	740	760
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Bates	631 774	645 778	667	742	744	758	762
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Vernon	631 774	645 778	667	742	744	758	762
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Henry	631 774	645 778	667	742	744	758	762
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St. Clair	631 774	645 778	667	742	744	758	762
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Cedar	631	645	667	742	744	758	762
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Printout of state :

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Cedar

778

Benton	631	645	667	742	744	758	762
	774	778					

Hickory	631	645	667	742	744	758	762
	774	778					

Andrew	631	634	649				
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De Kalb	631	634	649				
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Clinton	631	634	649				
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Buchanan	631	634	649				
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Reynolds	642	678	680	698	718	737	755
	757	815					

Wayne	642	678	680	698	718	737	755
	757	815					

Carter	642	678	680	698	718	737	755
	757	815					

Butler	642	678	680	698	718	737	755
	757	815					

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Ripley	642 757	678 815	680	698	718	737	755
Scott	651 785	689 807	693 819	731	733	751	763
Stoddard	651 785	689 807	693 819	731	733	751	763
Mississippi	651 785	689 807	693 819	731	733	751	763
New Madrid	651 785	689 807	693 819	731	733	751	763
Dunklin	651 785	689 807	693 819	731	733	751	763
Pemiscot	651 785	689 807	693 819	731	733	751	763
Franklin	658 788	661 802	692 808	699 810	712 813	751 819	779 828
St. Louis City	658 788	661 802	692 808	699 810	712 813	751 819	779 828
Jefferson	658	661	692	699	712	751	779

Printout of state :

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Jefferson	802	808	810	813	819	828	
<hr/>							
St. Charles	658	661	692	699	712	751	779
	788	802	808	810	813	819	828
<hr/>							
Atchison	661	701	717	736	738	755	774
<hr/>							
Nodaway	661	701	717	736	738	755	774
<hr/>							
Worth	661	701	717	736	738	755	774
<hr/>							
Gentry	661	701	717	736	738	755	774
<hr/>							
Holt	661	701	717	736	738	755	774
<hr/>							
Schuyler	679	698	722	736	756	758	778
<hr/>							
Scotlamd	679	698	722	736	756	758	778
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Clark	679	698	722	736	756	758	778

Printout of state :

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Clark

Lewis	679	698	722	736	756	758	778
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Knox	679	698	722	736	756	758	778
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Adair	679	698	722	736	756	758	778
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