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MAR 26 1992

REGION 34 (OKLAHOMA)
800 MHz PLANNING COMMITTEE

Federal Communications Commission
Office of the Secretary

March 17, 1992

92-171

Federal Communications Commission
Gettysburg, PA

Greetings:

Submitted for approval to the Federal Communications Commission is the Region 34 (Oklahoma) 800 MHz Public Safety Communications Plan as authorized and required by FCC Order 87-112.

Oklahoma, being a pioneer in 800 MHz trunked systems, had already established a five part 800 MHz growth plan that considered the densely populated geographical areas of Oklahoma for implementation statewide. In meeting the requirements of Order 87-112, the five areas (subregions) selected one public safety eligible to serve as a planning committee board member. Meetings were held at the subregion levels to encourage the maximum amount of participation from all levels of government in developing Region 34's plan. These meetings also served to inform the participants about 800 MHz communication systems. Monthly Region 34 meetings were scheduled and held in compliance with Oklahoma's Open Meeting laws and attendance from all eligibles throughout the state was excellent.

In developing Region 34's plan, it is readily recognized that each of the counties political subdivision, there are at least five public safety services being provided, e.g., law enforcement, fire fighting, ambulance, transportation and civil emergency management. Therefore, frequency allocations allow for trunked systems to meet the future communication needs in a cooperative effort at that level.

The members of Region 34 are to be commended for their hard work in helping develop this plan, with special thanks going to Richard Smith and Bill Howell.



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REGION 34 (OKLAHOMA) PLAN
CHECKLIST OF ITEMS
AND WHERE FOUND

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MAR 26 1992

FCC MAIL ROOM

Item #

- 1 **Cover page - Identifying the region.**
Yes
- 2 **Chairperson - Name, address, phone number and signature.**
Chairman's cover letter
- 3 **Committee members - Name, organizational affiliation, address, phone number.**
Page 99
- 4 **Summary of major elements of the Plan.**
Page i (Table of Contents) and page 2
- 5 **General description of how spectrum is allotted among users.**
Page 11
- 6 **Explanation of how the requirements of all eligibles are considered and met.**
Pages 89 through 91 (Appendix F1)
- 7 **Explanation of how eligibles are prioritized in areas where not all eligibles may receive licenses.**
Page 57 (Appendix C2)
- 8 **Explanation of how the plan has been coordinated with adjacent regions.**
Page 100 (Appendix H1)
- 9 **Description of how the plan puts spectrum to best possible use by:**
 - I. **Requiring system design with minimum coverage area.**
Page 26

Item #

II. **Assigning frequencies so that maximum frequency reuse and offset channel use may be made.**

Page 28

III. **Making use of trunking.**

Page 12

IV. **Requiring small entities with minimum requirements to join together on a simply system where possible.**

Page 12

10 I. **Explanation of how interoperability channels are managed.**

Page 17

II. **Description of provisions made to ensure that these channels will work and be managed effectively across regional borders.**

Page 18

11 **Does the plan have "slow growth" language. If yes, require your applicants to submit a slow growth schedule for both construction and loading dates.**

Yes. Pages 30-31

12 **Does the plan refer to giveback frequencies, filing window? (How long? If not, will the applicant file directly with the local APCO frequency advisor?)**

Yes. Page 13 and page 22

13 **Use the APCO/CET sorting program.**

Pages 65-85 (Appendix E1)

14 **Does the plan provide for regional mutual aid channels in addition to the five (5) common channels. If so, are there guard bands for these channels?**

Yes. Pages 18-19 and Appendix E1

ITEM #

15 **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.**

Page 33-48, Appendix A1

II. **Who could vote? And what procedure was used after first meeting?**

Page 89-91 (Appendix F1)

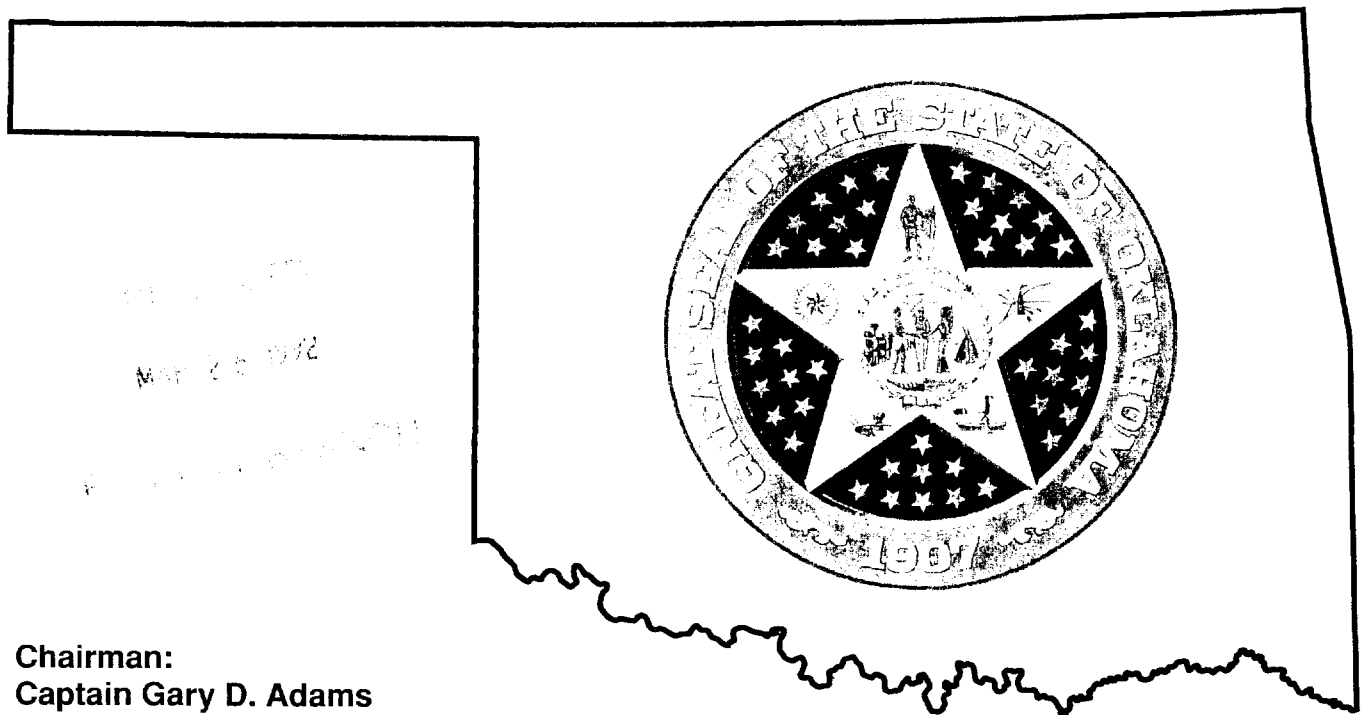
III. **How was the final plan adopted? Was it by members attending a meeting or mail ballot?**

Page 3 . (Final plan adopted at public meeting on March 5, 1992)

Public Safety Radio Communications Plan

REGION 34

State of Oklahoma



Chairman:
Captain Gary D. Adams
Oklahoma Department of Public Safety
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EXECUTIVE SUMMARY

The State of Oklahoma must contend with many public safety problems. Oklahoma is roughly quartered north and south by Interstate 40, which extends from the East Coast of the United States to the West Coast, and by Interstate 35, which extends from the Gulf of Mexico to the Canadian border.

These major roads with their easy access to secondary arteries of travel provide opportunity for much illegal traffic into and through the state, not to mention the many small rural airfields which abound.

Drug dealers find many opportunities to distribute marijuana from within and out of the state. Other types of chemicals and narcotics traffic are also a hazard to our citizens.

Wildlife and Forest Rangers frequently see activity which requires constant emergency communication with the Department of Public Safety, Local Sheriffs, and Civil Defense Directors.

As winter blizzards come streaking down the plains out of the Rocky Mountains, the Department of Transportation goes on full alert. Their employees are busy keeping roads open and safe for the motoring public. They too need reliable radio communication.

Our ambulances and Fire Department vehicles must be directed to dangerous situations and be able to call for assistance.

All of these Public Safety Agencies have to be able to use radio communications between themselves and other agencies for the protection of the Oklahoma citizens.

Because of this activity, radio frequencies for use in the Public Safety sector have been almost expended in the search for clear channels. Oklahoma has radio interference from both intrastate and interstate sources, plus foreign countries.

The Federal Communications Commission has long recognized these problems and in one attempt to help has promulgated FCC Docket 87-112.

FCC Docket 87-112 requires that a regional plan be approved which would outline the intended use of an 821-824/866-869 megahertz allotment of frequencies. This Plan had to be approved by the FCC before any frequencies would be allocated for use.

Docket 87-112 designates Oklahoma as Region 34 in the National Plan. Region 34 must be in conformity with the National Plan. This Plan must provide common calling channels between agencies as well as providing frequency congestion relief for agencies.

This Plan was written by a group of radio users representing a cross section of Public Safety communication in Oklahoma. In brief it will deal with the:

1. Authority of the Plan.
2. Spectrum utilization.
3. Communications requirements.
4. Implementation and procedures.
5. Technical design requirements.
6. Frequency Assignment Methodology

This will be a vital plan after its implementation by the Federal Communications Commission, with the opportunity to change and modify the Plan as required to be in compliance with the Commission's Rules and Regulations.

SCOPE

INTRODUCTION

When the Federal Communications Commission (FCC) announced the 821-824/866-869 MHz allocation of reserve radio frequencies to Public Safety Radio Services and Special Emergency Radio Services (SERS) in July 1986, (Docket 87-112) it mandated that a National Plan outlining the use of Public Safety radio frequencies must be in place before any agency would receive channels from this new allocation. As part of this mandate, Regional Plans conforming to the National Plan were to be developed. A Regional Plan for radio spectrum usage by Public Safety agencies in the State of Oklahoma was written by a group representing a cross section of Public Safety radio users from throughout the State. This Plan has been reviewed and approved by a vote of all members in attendance. All Public Safety radio communications interests in the state had an opportunity to participate in the development of this Plan (See Appendix G 1).

PUBLIC NOTIFICATION

The FCC has issued a Public Notice inviting all interested parties to participate in the workings of a committee that was to develop this Regional Radio Plan (Docket 87-112, see Appendix A 1).

PURPOSE

The Regional Plan was developed to ensure that maximum public benefit be derived from all radio communication systems used by eligibles that come under FCC rules for Public Safety Radio Services and SERS. The Plan was established with the objective of ensuring that unassigned frequencies would be distributed in an equitable fashion

with the priority given to those Public Safety agencies that are primarily responsible for the protection of life and property and that assigned frequencies will be utilized in the most efficient manner.

AUTHORITY

REGIONAL PLANNING COMMITTEE

The membership of the Regional Planning Committee was drawn from representatives of various Public Safety agencies and the state Associated Public-Safety Communications Officers (APCO) Frequency Advisor. Authority for the Regional Planning Committee to carry out its assigned tasks is derived from the FCC (FCC Report and Order, Docket 87-112). Each committee member that is a representative of an eligible licensee under the Public Safety Radio Services and SERS is entitled to one vote in all committee matters. Except as may be provided elsewhere in this Plan, the majority of those present at a scheduled meeting will prevail (See Appendix F 1).

NATIONAL INTERRELATIONSHIP

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 in the country may differ from the Plan for this area due to dissimilar situations. By officially sanctioning the Plan, the FCC concurs 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 Service, but rather it provides procedures that are the consensus of the Public Safety/Special Emergency Radio Service user agencies in the Region. If there is a perceived conflict then the judgment of the FCC will prevail.

FEDERAL INTEROPERABILITY

Interoperability between Federal, State and Local Government will 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 up to a 2% increase in mobile units, provided that experience or documentation with Federal agencies supports that number of increased units.

REGIONAL PLAN REVIEW COMMITTEE

After Plan approval by the FCC the Regional Planning Committee Chairman shall appoint a Regional Plan Review Committee (RPRC) and shall provide the FCC with the chairman's name, address and telephone number.

This Committee will remain in place to recommend changes in the Regional Plan and to provide a mechanism for interregional resolution of problems which arise. Additionally, this Committee will review the system implementation of those subject to this Plan at least once a year and make any warranted recommendations to the FCC for amendment of the Plan.

The standing membership of RPRC shall consist of the APCO designated local Frequency Advisor and 5 members from the region. The RPRC shall elect one member to serve as Chairperson and establish and follow rules as to its operating procedures. In no case shall any single radio service have a majority membership. All applicants to the RPRC shall make requests to the APCO local Frequency Advisor, who will present those names to the members of the RPRC Committee to be voted upon. The APCO designated local Frequency Advisor shall not serve as Chairperson of the RPRC nor be a voting member.

At the initial meeting each member will draw lots numbered from one to five to represent the length of the member's initial term. At the conclusion of this term the member is due for replacement or reappointment. Each member will be voted upon by the other committee members in sequence. All subsequent terms will be five years in length; if a member resigns or is replaced, the replacement will serve for the remaining term.

The following rules and procedures shall be established:

- Elect a Chairperson
- With FCC approval modify committee membership
- Publish meeting schedule
- Determine committee voting standards
- Process applicant appeals
- Audit implementation of those systems subject to the Plan
- Maintain coordination with neighboring regional committees
- Promulgate other rules and procedures as required

It should be noted that the FCC will not fund any expenses incurred by the RPRC.

Region 34 consists of 77 counties, divided into five subregions. The subregions are as follows:

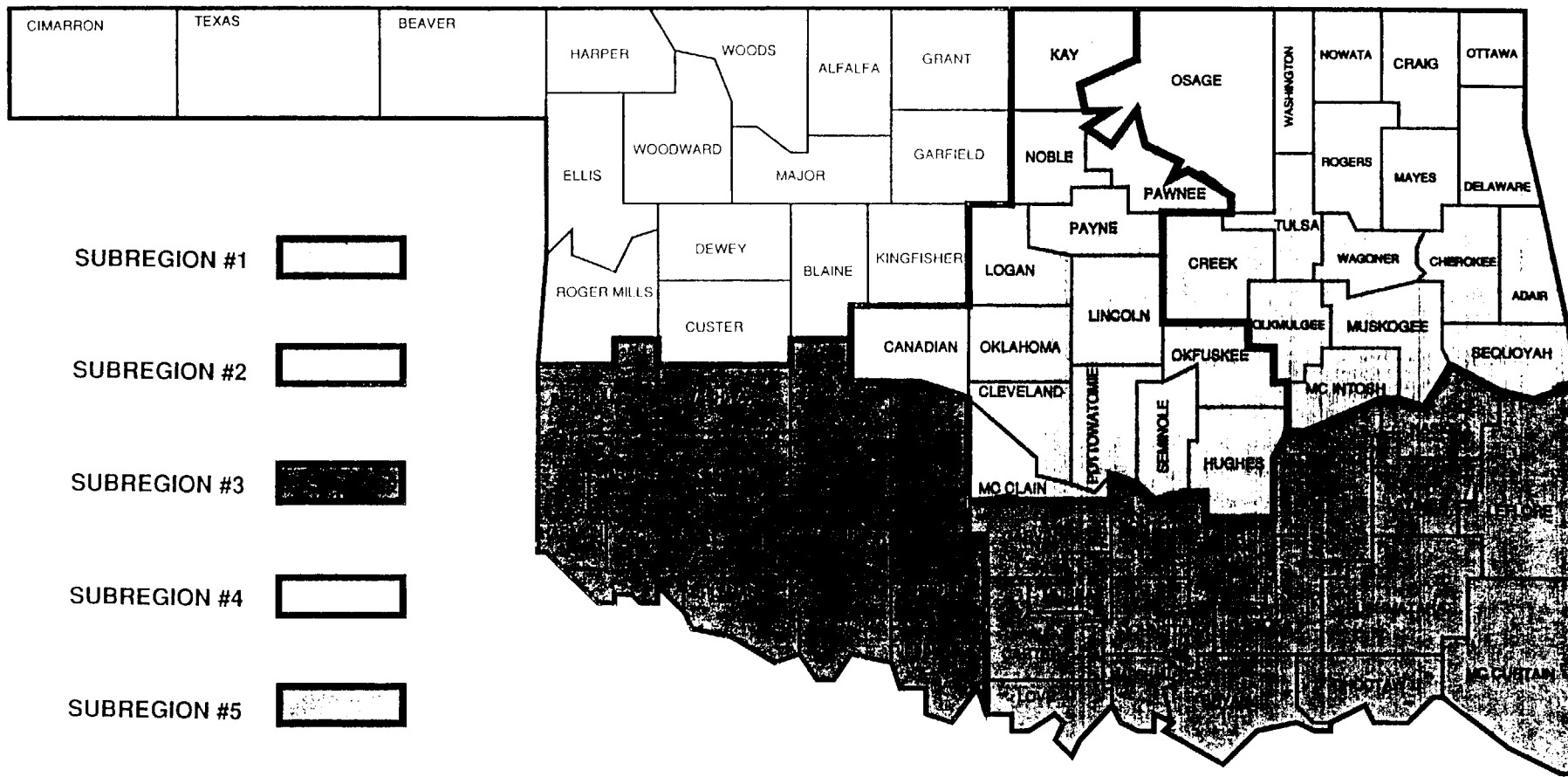
<u>SUBREGION #1</u>	<u>SUBREGION #2</u>	<u>SUBREGION #3</u>
Canadian	Adair	Beckham
Cleveland	Cherokee	Caddo
Hughes	Craig	Comanche
Kay	Creek	Cotton
Lincoln	Delaware	Grady
Logan	Mayes	Greer
McClain	McIntosh	Harmon
Noble	Muskogee	Jackson
Okfuskee	Nowata	Jefferson
Oklahoma	Okmulgee	Kiowa
Pawnee	Osage	Stephens
Payne	Ottawa	Tillman
Pottawatomie	Rogers	Washita
Seminole	Sequoyah	
	Tulsa	
	Wagoner	
	Washington	

SUBREGION #4

Alfalfa
Beaver
Blaine
Cimarron
Custer
Dewey
Ellis
Garfield
Grant
Harper
Kingfisher
Major
Roger Mills
Texas
Woods
Woodward

SUBREGION #5

Atoka
Bryan
Carter
Choctaw
Coal
Garvin
Haskell
Johnston
Latimer
LeFlore
Love
Marshall
McCurtain
Murray
Pittsburg
Pontotoc
Pushmataha



SUBREGION #1



SUBREGION #2



SUBREGION #3



SUBREGION #4



SUBREGION #5



REGION 34 MAP

SPECTRUM UTILIZATION

This portion of the Plan provides a basis for proper spectrum utilization. Its purpose is to guide the Committee in its task of evaluating the implementation of radio communication systems within the Region.

REGION DEFINED

Region 34 is the geographic area that encompasses the entire State of Oklahoma.

The total population of the State of Oklahoma is estimated to be approximately 3.3 million people. Within this Region is a network of jurisdictions including state government, municipal organizations crossing state lines, municipalities, counties and fire districts.

USAGE GUIDELINES

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

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 could be required to share the frequency on a nonexclusive basis.

Public Safety communications at a state level as it impacts the Region will be reviewed by the Committee. Statewide Public Safety agencies will submit their communications Plans for approval.

The next level of communication coverage will be a county/multiple municipality area. Those systems that are designed to provide wide area communication coverage must demonstrate their need to require such wide area coverage. 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 or provides for a multiple municipality communications system. If trunked radio technology is utilized, the system design must include as many Public Safety radio users as can be managed.

All agencies, depending upon system loading and the need for multiple systems within an area, must provide intercommunications between wide area systems. In a multi-agency environment, a system operator using 821-824/866-869 MHz spectrum must implement the Common Channels in this band as mandated by the National Plan. Such implementation must be reviewed and approved by the Committee.

Municipal terminology can be different. In order to provide a title for the next level of communications, the term municipality is used to define the level below county/multiple municipality area. Municipality communications for Public Safety 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 municipality must consider utilizing the next higher system level if a trunked radio system is available in the area. As those higher level systems reach capacity, the smaller system communicators in the Public Safety service must consider uniting their communications efforts to formulate one large trunked system or forfeit the use of the limited 821-824/866-869 MHz spectrum.

Where smaller conventional 821-824/866-869 MHz needs are requested, those frequencies to be utilized must not interfere with the Region's trunked systems. The 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.

An applicant for radio communications in the 821-824/866-869 MHz Public Safety services for the Region will be required to provide loading criteria information 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 area of coverage to the boundaries of the applicant's agency's jurisdiction must be observed. Overlap or extended coverage must be minimized even where systems utilizing trunked radio 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, then special antenna patterns must be employed to produce the necessary coverage with the proper amount of Effective Radiated Power (ERP). All necessary precautions will be taken to gain maximum reuse of the limited 821-824/866-869 MHz spectrum.

As part of this Plan, distances between transmitters for co-channel reuse may not be held to seventy (70) mile separation. Separation of co-channel transmitters will be determined by the coverage needs of the applicants, natural barriers for separation, antenna patterning and limited ERP's where possible. System tests and/or propagation studies should also be provided to establish minimum distances for separation.

REASSIGNMENT OF FREQUENCIES

It is anticipated that, in all but the most unusual cases, frequencies presently utilized by a licensee will be turned back for reassignment. Any such "give back" frequencies shall be

in the same radio service as those for which the applicant has applied. The APCO-authorized Frequency Advisors will be responsible for reassignment of the channels. Normal coordination procedures will be followed with these “give back” channels except that the applicant evaluation criteria established in the National Plan and further defined in this Regional Plan is to be considered. In such cases where specific channels are required by numerous applicants, the applicant Evaluation Matrix will be utilized. In all cases, area of coverage criteria and channel loading criteria will be applied, except upon unique circumstances after receiving a waiver from the Regional Planning Committee. It is not consistent with the goals and objectives of this Region to permit the direct reassignment of radio frequencies between agencies. Frequencies are to be returned to their respective radio service, per FCC Rules Part 90, for reallocation. An agency should not be able to “farm down” frequencies to other services within their political structure, simply to take advantage of surplus equipment. The need for communications by such an agency may be outweighed by the needs of another political subdivision.

This Regional Plan will consider, for planning purposes, the communication needs of all current eligibles under the FCC’s Public Safety Radio Services and Special Emergency Radio Services.

SUPPLEMENT TO THE APPLICATION FORM

With each current APCO application form submitted directly to the local Frequency Advisor the applicant shall supply the following supplemental information:

- Details of engineering survey showing radio coverage intended.
- Explain how the system will be used to communicate with other services in other bands.
- Explain any budget commitment that has been made for the proposed system.
- Explain how the system will interface with long distant radio communications such as

amateur radio, satellite communications, and/or long-range emergency preparedness communications system.

- Explain and certify that the applicant's agency will comply with the Common Channel implementation requirements.
- Statement of need for installing a new 821-824/866-869 MHz system.

COMMUNICATIONS REQUIREMENTS

COMMON CHANNEL IMPLEMENTATION

The implementation of the Common Channels required under the National Plan will utilize a two tier network.

1. The Calling Channel will be implemented as a full mobile relay with wide area coverage transmitters installed to maximize regional coverage. Large system users (5 channels or more) of 821-824/866-869 MHz may be asked to provide remote receiver feeds into this wide area transmitter's area of coverage. Any agency may be required to operate a station for the purpose of monitoring and rendering assistance on the Calling Channel. Each licensee of more than five 821-824/866-869 MHz channels must be willing to provide sufficient remote receivers for in-street mobile coverage within their system area, consistent with their system coverage requirements.
2. Tactical Channels will be assigned throughout the Region, with major users of five or more channels sponsoring (individually or jointly) one or two localized mobile relays to cover their specific geographic boundaries. This will give a fixed number of working channels in an area. Depending upon the needs in an area, multiple channels could be implemented. The placement and coverage of these systems will be controlled to permit reuse several times within the Region. Talk-around on all four Tactical Channels will provide additional on-scene communications to supplement the localized mobile relay. In addition, talk-around will also provide on-scene communications in areas where there exists no localized mobile relay.

AREAS OF OPERATION

The total area of operation shall encompass the Region, and shall extend outward to include the total system area of any system of which any portion falls within the Region.

OPERATION OF THE COMMON CHANNELS

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 daily operations or for interagency communications not requiring interoperability. In major emergency situations, one or more Tactical Channels may be assigned by the primary local dispatch center.

Participants in the Interoperable Channels include federal, state, and local disaster management agencies. If radio channels are available, other services provided in the Public Safety Radio Services and SERS may also participate to the extent required to insure the safety of the public.

OPERATING PROCEDURES

All mobile and portable radios operating in the 821-824/866-869 MHz band shall be equipped to operate on the five Common Channels using Continuous Tone Coded Squelch System (CTCSS) tone squelch of 156.7 Hz.

All mobile relay base stations operating on these Common Channels shall be equipped to operate using CTCSS tone squelch of 156.7 Hz. They shall be equipped to operate as a mobile relay station on demand, but shall normally operate in the repeat disable mode.

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.