#### Oklahoma Region 34 NPSPAC Public Safety Planning Committee Regional Plan Update Committee

December 1, 2020

Public Safety and Homeland Security Bureau, Chief Federal Communications Commission Office of the Secretary 45 L Street NE Washington, DC 20554

Subject: WTB Docket No. 93-78, Region 34 - 800 MHz Regional Plan

On behalf of Regional Planning Committee 34 (Region 34), I am pleased to submit the updated Plan for the use of the 800 MHz public safety narrowband voice frequencies pursuant to the rules of Federal Communications Commission. The Region 34 updated Plan include the new allotments as developed by the Computer Assisted Precoordination Resource and Database System ("CAPRAD").

Region 34 believes that this updated Plan sufficiently addresses each of the common elements required under the Commission rules the compilation of the Plan, Region 34 provided notice of all meetings, opportunities for comment, and how we reasonably considered the views expressed by participants. The Plan was coordinated with each of the neighboring Regional Planning Committees. This updated Plan is representative of all public safety entities in Region 34.

The Region requests the Commission's approval of this Plan as so licenses for critically needed land mobile radio systems supporting homeland security and public safety can be submitted.

Respiration die

Scott Walsh

Chairman, Region 34 700MHz Committee and 800MHz Committee

# Region 34 NPSPAC PLAN UPDATE

## State of Oklahoma



Submitted by Regional Plan Review Committee December 1, 2020

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## INTRODUCTION

When the Federal Communications Commission (FCC) announced the NPSPAC 821-824/866-869 MHz allocation of 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. Under FCC Docket 02-55 also referred to as Rebanding the NPSPAC spectrum was changed to 806-809/851-854 MHz. 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. The original Plan is herein modified by the Regional Plan Review Committee membership to reflect:

- Change in spectrum as a result of Rebanding
- Improvements in interference modeling and protection
- Widespread use of narrowband technologies such as P25.

## **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 the original Regional Radio Plan. This Update is under the authority of the Regional Plan Review Committee as provided under the original Plan.

## **PURPOSE**

The Regional Plan was developed to ensure that maximum public benefit be derived from all radio communication systems used by eligible agencies 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 manor 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.

## REGIONAL PLANNING COMMITTEE

The membership of the Regional Planning Committee was drawn from representatives of various Public Safety agencies and the state Association of Public-Safety Communications Officials (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. A meeting may be in-person at a host location and/or virtual.

## NATIONAL INTERRELATIONSHIP

The Regional Plan is in conformity with the National Plan. 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 Regional Plan Review 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 RPRC 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 3 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. 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.

## 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 3.9 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 806-809/851-854 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 806-809/851-854 MHz spectrum.

Where smaller conventional 806-809/851-854 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 806-809/851-854 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 806-809/851-854 MHz spectrum.

As part of this Plan, distances between transmitters for co-channel reuse may not be held to 113 km or 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.

## SUPPLEMENT TO THE CAPRAD FCC Form 601 APPLICATION

With each new CAPRAD application submitted directly to the Region, the applicant shall supply the following supplemental information:

Details of engineering survey showing radio coverage intended along with an engineering analysis of protection afforded to current co channel and adjacent licensees.

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 806-809/851-854 MHz system.

## **COMMUNICATIONS REQUIREMENTS**

## **COMMON CHANNEL IMPLEMENTATION**

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

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 806-809/851-854 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 806-809/851-854 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.

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 intercommunications 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 ensure the safety of the public.

## **OPERATING PROCEDURES**

All mobile and portable radios operating in the 806-809/851-854 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.

Users will be coming from varied backgrounds and disciplines each having their own language. Any attempt to introduce a new code would only confuse the issue and cause confusion and possibly even rejection of the interoperability concept.

#### **8CALL90 Calling Channel**

The Calling Channel (806.0125/851.0125 MHz) shall be used to contact other users in the Region that can render assistance at an incident. This channel shall not be utilized as an ongoing working channel. Once contact is made between agencies, an agreed upon tactical or mutual aid channel shall be used for continued communications.

#### 8TAC91 through 8TAC94

These frequencies (806.5125/851.5125, 807.0125/852.0125, 807.5125/852.0125 and 808.0125/853.0125 MHz respectively) are reserved for use by those agencies involved in interagency 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 into use by various services of Public Safety as needed.

## PRIMARY NETWORK CONTROL CENTERS

The Region will establish a wide area Calling Channel which will be monitored by communications centers designated as primary network controls due to their larger areas of geographic coverage. It is the responsibility of these centers to respond to calls for assistance from any vehicle or dispatch point within their area of coverage. The network controls will coordinate the assignment of the Tactical Channels for ongoing emergency operations consistent with the geographic vicinity of the

emergency. Other Public Safety licensees are encouraged to establish dispatch points on the Calling Channel and any Tactical Channels that are operational within their area of jurisdiction. It is anticipated that at least one Tactical Channel mobile relay will be operational in all geographic areas of the Region.

### **NETWORK OPERATING METHOD**

A network will be established on the 8CALL90. This network will be wide area to cover most sections of the Region. Multiple networks may be required to fully cover the outlying areas of the Region.

Communications systems on 8TAC91 through 8TAC94 will be implemented by agencies who volunteer on a coordinated basis. Every primary geographic section of the Region is intended to be covered by at least one of the working channels.

In secondary areas, Common Channels will be utilized through mobile-to-mobile talkaround. Mobile relays on 8TAC91 through 8TAC94 will be of a limited coverage design to permit reuse of the channel several times within the Region and in adjacent Regions.

### **ENCRYPTION**

The Calling Channel shall not use any means of encryption. The nature of communications on the four Common Channel pairs to support the National Mutual Aid system is designated for tactical operations, disaster and emergency management, as well as local and regional interoperability. The ability to operate securely on these channels would both protect and enhance these operations. It is evident that the capability of the four Tactical Channels to support secure communications is also strongly recommended.

## IMPLEMENTATION AND PROCEDURES

## **NOTIFICATION**

All interested parties were invited to participate in the development of the Regional Plan. This notification was accomplished by the FCC issuing a Public Notice and by the "Convener" directly notifying organizations representing eligible agencies. In addition, the mobile communications print media were contacted by the Convener and made aware of the Committee's formation. Also notified were state and local government agencies concerned with emergency management as well as federal agencies responsible for National Security and Emergency Preparedness.

## FREQUENCY ALLOCATION PROCESS

In performing the allocation process the Committee used the algorithm made available by the Association of Public-Safety Communications Officials for use as an aid to maximize spectrum utilization. The Committee also considered the results of a recent demographic study to determine the future needs of applicants. Any system that may impact frequencies of a neighboring Planning Region has been coordinated by the respective Committee Chairmen of the affected Regions.

The Plan requires applicants wishing spectrum in the 806-809/851-854 MHz band to submit to the an FCC 601 form to the Region through the CAPRAD processing system, as well as supplemental information required by this Plan. If the Region finds the completed application to be in compliance with the Plan, the Region will review and approve the allocation. The application will then be sent to the FCC Frequency Coordinator selected by the applicant for coordination. If the application is deficient, it will be returned to the applicant.

If the Plan Chair expects that the available spectrum will not be adequate to meet forecasted spectrum demands, the Region can activate the Filing Window Program. The Filing Window Program will provide for the evaluation of all applications for the available spectrum at the same time. The 806-809/851-854 MHz Frequency Allocation Process follows the guidelines established under the Public Safety National Plan. A window opening announcement is made by direct mailing and public announcements through the media. The window period will be thirty days, with early or late applications rejected. Applications are received and reviewed during the window period through the CAPRAD filing system.

The implementation of the Evaluation Matrix will result in the award of a score for each application. That score is the total of points awarded in seven categories, with a maximum possible score of 1000 points. The seven categories are as follows: Service - Maximum score of 350 points.

Each of the eligible services has a predetermined point value. That point value is multiplied by ten (10) to determine the score for the service category. An applicant with multiple services will be scored on the basis of the percentage that each service represents of his total system. That is, a system that is 50% police and 50% local government would be awarded the total of 50% of the point value for police plus 50% of the point value for local government.

#### Intersystem Communications - Maximum score of 100 points.

The application is scored on the degree of the ability to intercommunicate with other systems, with a range of points from 0 to 100. This category does not rate the application on the inclusion of the mandated five Common Channels for interoperability. This category does rate the applicant on the proposed ability to communicate with different levels of government and services during times of emergency.

Intersystem communications can include but will not be limited to the use of crossband patching to agencies using other frequencies, common dispatch points linked via hard wired or wireless techniques or standing equipment for use during emergencies.

#### Loading - Maximum score of 150 points.

Those applicants that have demonstrated that they are part of cooperative, multi organization systems will be scored on a range of 0 to 100 points depending upon the extent of the cooperative system. An expansion of an existing 806-809/851-854 MHz system will be scored on a range of 0 to 50 points, depending upon the degree of expansion. A system could be an expansion of an existing 806-809/851-854 MHz and a cooperative system as well, and as a result receive the combined point values for these two subcategories for a maximum value of 150 points.

Cooperative systems may be defined as systems in the 806-809/851-854 MHz spectrum participated in by more than one governmental agency, including states, counties, cities, and other governmental subdivisions.

#### Spectrum Efficient Technology - Maximum score of 50 points.

This category scores the applicant on the degree of spectrum efficient technology that the system demonstrates. A point value range of 0 to 50 points can be awarded for this category. A trunked system would be considered spectrum efficient technology, as well as any technological system feature which is designed to enhance the efficiency of the system and provide for the efficient use of spectrum.

Systems Implementation Factors - Maximum score of 100 points.

This category scores the applicant on two factors: budgetary commitment and planning

completeness. The degree of budgetary commitment is scored on a range of 0 to 50 points. An applicant that demonstrates a high degree of commitment in funding the proposed system will receive the higher score. Additionally, each applicant will be scored on the degree of planning completeness with a range of scoring from 0 to 50 points.

Applicants will be required to submit a timetable for the implementation of the communications system or systems.

#### **Geographic Efficient - Maximum score of 100 points.**

Each applicant will be scored on the level of geographic efficiency. Scoring will be based upon two subcategories: the ratio of mobiles to area covered and the channel reuse potential. The ratio of mobiles to area covered measures the level of efficient coverage that a system demonstrates. The higher the ratio (mobiles divided by square miles of coverage) the more efficient the use of the frequencies. The ratio of mobiles to area covered is scored on a scale of 0 to 50 points. Those systems which cover large geographic areas will have a greater potential for channel reuse and will receive a high score in this subcategory. The level of channel reuse potential is scored on a scale of 0 to 50 points.

#### Give-backs - Maximum score of 100 points.

The applicant is scored in two subcategories; the number of channels given back and the extent of availability of those channels to others. The greater the number of channels given back, the higher the score will be, with range of points of 0 to 50. The greater the level of availability of the give-backs, the higher the score will be in the subcategory for availability to others, with a range 0 to 50.

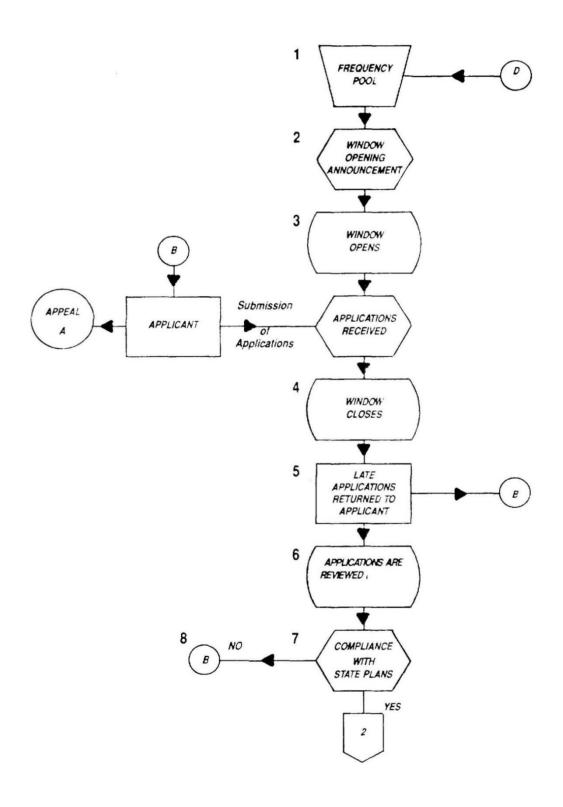
Points are totaled for each application and the applications are prioritized by the Committee. Once approved by the Region, the applications are then sent to the selected Frequency Coordinator for coordination. After this point the FCC would grant the license(s) to the approved applicant(s).

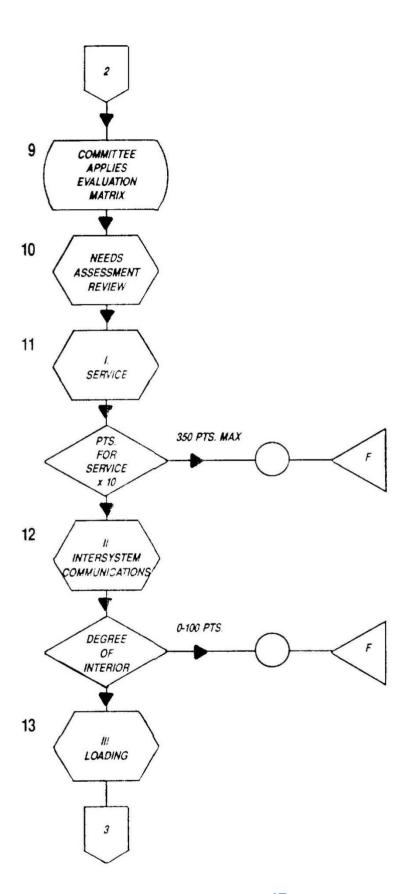
Systems implementation is monitored by the Region 34 Regional Plan Update Committee who determines if progress is made on the implementation in accordance with any Slow Growth Plan. If progress is made, the system is ultimately implemented. If progress is not made, the licensee will be warned of the consequences of his lack of progress. If the continued monitoring indicates that progress is still not being made, the licensee will be notified of pending action to request the FCC to withdraw the license due to non-compliance with the Extended Implementation Plan. The notified licensee can appeal this action or can allow the license to be withdrawn. If the allocated frequencies are withdrawn, they will be returned to the frequency pool.

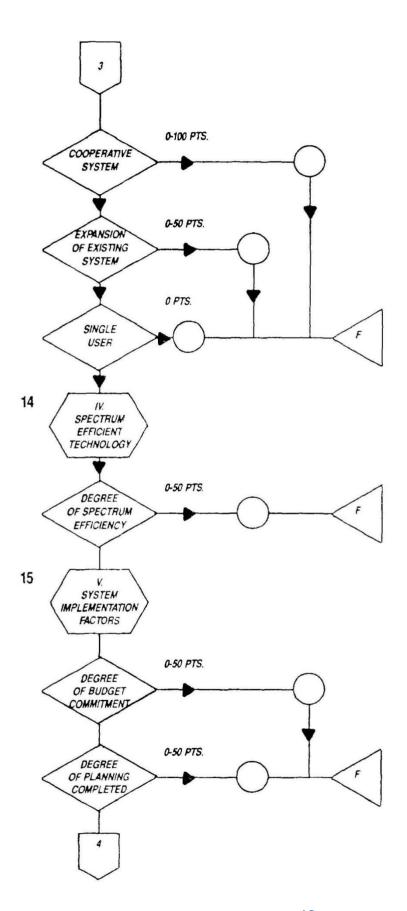
## **APPEAL PROCESS**

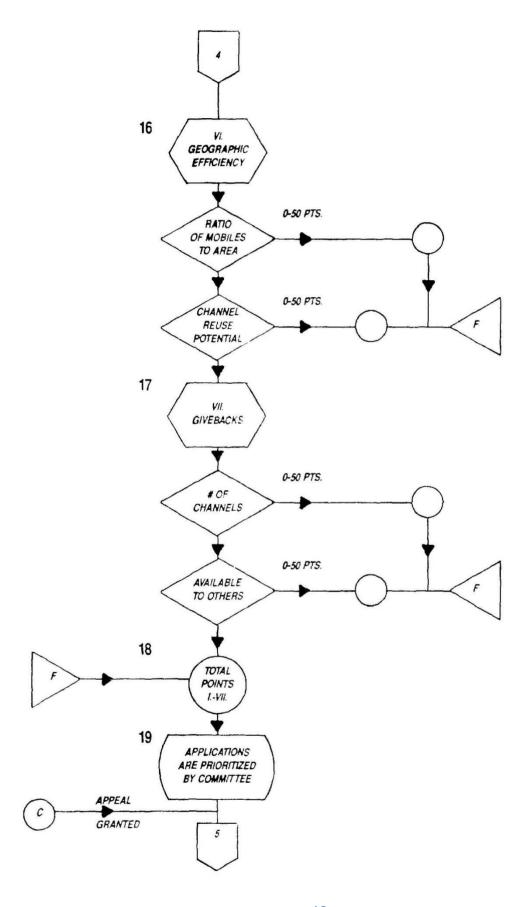
Throughout the frequency allocation process, applicants are given opportunities to appeal decisions which have caused rejection of applications. The appeal process has two levels; RPRC and the FCC. An applicant who decides to appeal a rejection should initiate that appeal process upon notification of rejection. In the event that an appeal reaches the FCC, its decision will be final and binding upon all parties.

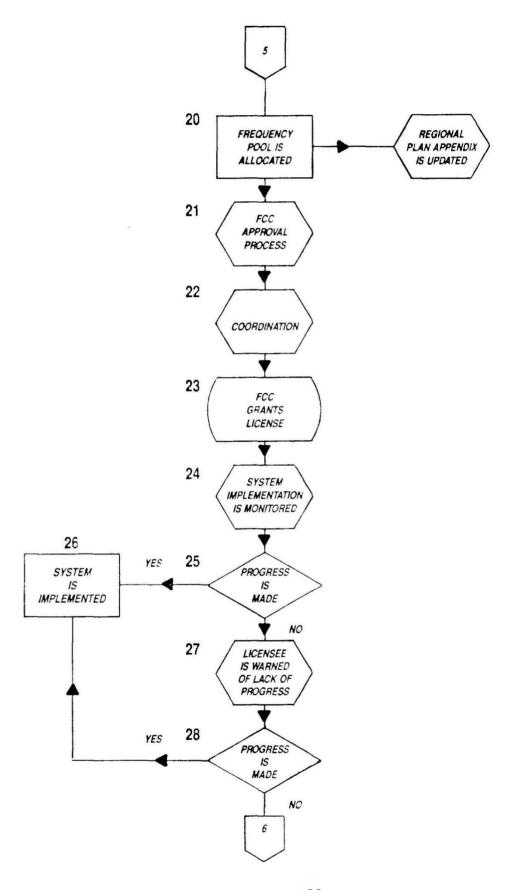
## **EVALUATION FLOW CHART**

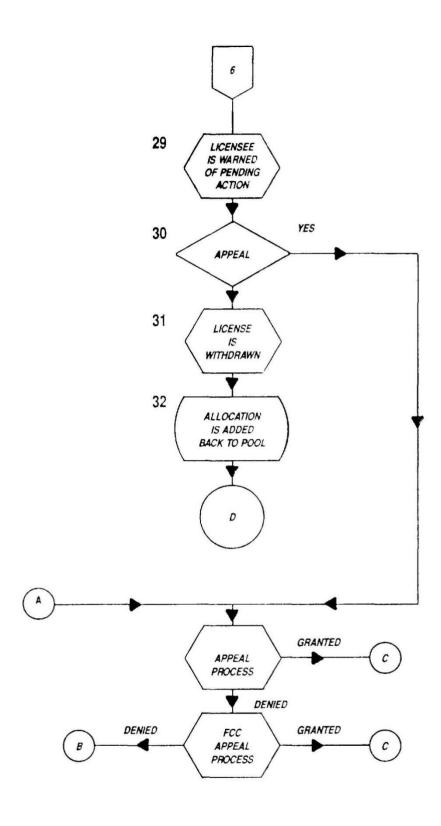












## **EVALUATION POINT VALUES**

VALUE RATING FOR TYPES OF USAGE	POINT VALUE
Local Government	
Transit Systems	15
Utility Operations	30
Administration	15
Maintenance	15
Security Patrols	15
Other Functions	15
Police	35
Fire	35
Highway	30
Forest Fire	30
Conservation	25
Medical Services	
Hospitals	10
Patient Transfer (vans, etc.)	6
Physicians	5
Emergency Medical Services (BLS and ALS)	35
Handicapped Transportation (vans, etc.)	15
Veterinarians	5
Disaster Relief Organizations	15
School Buses	
Private Under Contract	5
School District Operated	5
Included in an approved Emergency Management Evacuation Plan	15 -
Beach Patrols	5
Isolated Areas	5
Comm. Standby Facilities	5
Repair of Comm. Facilities	5

## TECHNICAL DESIGN REQUIREMENTS

## **COVERAGE LIMITATION - ANTENNA HEIGHT AND POWER**

System coverage or service area is limited to geographical boundaries in order to maintain maximum frequency reuse within the Region. Applicants requesting new or additional channels will have their proposed system design evaluated by the RPRC. Any applicant requesting a transmitter location not centrally located within its jurisdiction must include in the request adequate justification for such placement. A non-centrally located transmitter may result in significant encroachment on surrounding jurisdictions; a directional antenna must be chosen which will minimize this encroachment.

Applicants with service areas outside their political boundaries may request extended system coverage. Such requests for extended coverage must be accompanied by written justification.

Extended coverage systems will not be authorized unless approved by the RPRC. Favorable consideration will be given to those eligible agencies other than the licensee.

## **DEFINITION OF SERVICE AREA**

"System Coverage" or "Service Area" is defined as the boundary where the received signal strength falls to 40 dB $\mu$  F(50,50). dB $\mu$  is a measure of signal strength with one microvolt as a reference. The 40 dB $\mu$  service contour is generally limited to 3 to 5 miles beyond the jurisdiction of the licensee applicant.

## **CALCULATION OF SERVICE AREA**

Three factors must be known to determine service area:

- The strength of the received signal, i.e., "received signal strength"
- Antenna height above average terrain (HAAT)
- The effective radiated power (ERP).

Analysis is based on TIA TSB-88C propagation standards.

**Service area**: 40 dBu F(50,50) Okumura-Hata-Davidson with diffraction modeling disabled and without Land Use loss. The general service area should not extend beyond 3 to 5 miles of the geographic jurisdiction area without explanation.

This plot must be submitted with the request for frequencies to show that service area outside the applicants' political jurisdiction is being kept to a minimum. Any applicant

with its transmitter centrally located will be allowed a minimum service area radius of eight (8) miles - regardless of the size of its jurisdiction - as long as interference protection for existing co-channel and adjacent channel systems is sufficient.

## RESPONSIBILITY FOR CALCULATIONS

It will be the responsibility of the applicant to calculate the proposed service area and to validate the accuracy of the calculation.

## PROPOSED SERVICE AREA EXHIBIT

An applicant shall provide, along with its request for frequencies, an exhibit showing the calculated service area and the applicant's jurisdictional boundaries. The boundaries must be drawn on a map with a title block including the name of the applicant, height above ground of transmit antenna, effective radiated power, latitude(s), longitude(s), ground elevation of the transmitting site(s), and the distance to the service area boundary in miles, as calculated.

## **CONTROL STATIONS**

A control station's area of coverage shall not extend beyond the main system service area. Control stations are permitted on a secondary, non-interference basis.

## FREQUENCY REUSE

Careful adherence to the system technical design requirements of this Plan will allow for maximum co-channel usage within this Region. Because of the close proximity of adjacent channel frequencies, adjacent channel considerations must be planned similar to that of co- channel design.

Applicants requesting frequencies that have been previously licensed within this Region or an adjacent Region must show that their proposed system will operate on an interference free basis with any existing co-channel system. Applicants must demonstrate that the proposed system will provide an existing to proposed signal margin of at least 35 dB at the service area boundary of the existing system.

The applicant will provide a computer generated propagation plot based upon TIA TSB-88C criteria. The model must utilize a 1 arc second (30 meter resolution) terrain database. An engineering submission showing the requested channels/frequencies will not interfere with existing allocations in Region 34, or any of the regions surrounding Region 34.

Region 34 will assist in providing existing allocation information when available, however full technical details may not be available and will need to be researched by the applicant. The applicant is urged to utilize the FCC ULS system along with the CAPRAD Region 34 data for co-channel site details and to contact the existing licensee to determine unique

site details such as directional antennas.

The co-channel interference contour is 5 dB $\mu$  F(50,10). The applicant must show that the interference contour for each site in the proposed system does not overlap the service contour 40 dB $\mu$  F(50,50) of any existing licensed site. That is a 35 dB desired to undesired ration is maintained.

## ADJACENT CHANNEL DESIGN

Proposed systems must also be designed for interference-free operation with adjacent channel licensees.

The applicant will provide a computer generated propagation plot based upon TIA TSB-88C criteria. The model must utilize a 1 arc second (30 meter resolution) terrain database. An engineering submission showing the requested channels/frequencies will not interfere with adjacent existing allocations in Region 34, or any of the regions surrounding Region 34

Region 34 will assist in providing existing allocation information when available, however full technical details may not be available and will need to be researched by the applicant. The applicant is urged to utilize the FCC ULS system along with the CAPRAD Region 34 data for adjacent channel site details and to contact the existing licensee to determine unique site details such as directional antennas.

Under the original Plan the NPSPAC channel were allotted on 12.5 kHz centers with equipment that had an occupied bandwidth of 16 kHz. This resulted in adjacent channel interference possibilities that required detailed analysis.

The applicant must provide up to three types of analysis:

If the proposed system will utilize 16 kHz or greater occupied bandwidth the adjacent channel analysis must utilize a 25 dBµ F(50,10) interference contour that does not intersect the current licensee 40 dBµ F(50,50) service contour.

If the proposed system will utilize 9 kHz or less occupied bandwidth and the current licensed adjacent channel system utilizes 16 kHz or greater occupied bandwidth, then the adjacent channel analysis must utilize a 35 dB $\mu$  F(50,10) interference contour that does not intersect the current licensee 40 dB $\mu$  F(50,50)service contour.

If the proposed system will utilize 9 kHz or less occupied bandwidth and the current licensed adjacent channels system utilizes 9 kHz or less occupied bandwidth, then the adjacent channel analysis must utilize a 60 dBµ F(50,10) interference contour that does not intersect the current licensee 40 dBµ F(50,50) service contour.

## SYSTEM COMPATABILITY METHOLOGY

A choice of many different models is available. For the purpose of determining interference the Okumura-Hata-Davidson model was used as identified in TSB-88C. The diffraction losses normally applied to system coverage predictions were set to null, producing a service and interference contour that is not reduced by diffraction caused by varying terrain.

#### **Co Channel Analysis**

Sites that are located within the 113 km search boundary are assigned a desired value of 40 dB $\mu$  median F(50,50). Proposed sites were assigned an undesired value of 5 dB $\mu$  F(50,10). This results in a 35 dB D/U ratio. The resulting non-overlap plots indicate channels that pass the evaluation and those that failed.

#### **Adjacent Channel Analysis**

The NPSPAC band is divided into channels spaced at 12.5 kHz on center. Originally, the equipment availability was analog and wide pulse digital requiring an occupied bandwidth of up to 20 kHz. These requirements resulted in bandwidth that overlapped into the adjacent channel on each side of the center frequency. The NPSPAC plan adapted to this overlap bandwidth by developing an adjacent channel interference contour of 25 dBµ. This adjacent channel interference contour assumed that the radio equipment provided 20 dB of adjacent channel rejection at the distance separation between systems. With a 20 dB system protection, the resulting interference analysis becomes 40/25 dB to be equal to the co-channel situation.

Where the proposed system is narrowband (9 kHz or less occupied bandwidth) a reduced adjacent channel criteria is followed. The emission is contained well within the 11.25 kHz emission mask of a 12.5 kHz spaced channel. However, where the adjacent channel legacy system is still operating at wideband analog, the adjacent channel consideration remains to be considered. The interference analysis predicts that the adjacent channel is protected to 30 dB. (See FCC DA97-2006 Protection of wideband system from narrowband operations). With a 30 dB system protection, the resulting interference analysis becomes 40/35 dB to be equal to the co-channel situation.

When both the proposed and adjacent channel legacy systems are narrowband the adjacent channel problem is virtually eliminated. The rules at 700 MHz provide guidance that show a limited adjacent channel protection of -20 dB, where the adjacent signal may be 20 dB greater than the desired signal and the system will still operate interference free. This is due to the non-overlap of bandwidth and the reality of a guard band between the two 12.5 kHz narrowband channels. The analysis is with a 40 dB $\mu$  service area and an adjacent channel contour of 60 dB $\mu$ , or a 40/60 dB $\mu$  desired to undesired where both systems are narrowband.

## SYSTEM LOADING AND IMPLEMENTATION REQUIREMENT

Applicants utilizing frequencies in the 806-809/851-854 MHz band shall comply with loading requirements as called for in Part 90.631 of the Commission's Rules and Regulations for trunked radio systems, and in Part 90.633 of the Commission's Rules and Regulations for conventional systems. As referenced in 90.631 and 90.633, Part 90.629, shall also apply.

## **EXTENDED IMPLEMENTATION SCHEDULES**

Applicants within this portion of the 806-809/851-854 MHz spectrum requesting either trunked or conventional frequencies may be authorized a period of up to seven (7) years for placing a system in operation in accordance with the following:

- I. The applicant submits justification for an extended implementation period. The justification must include the implementation schedule (with milestones) for the construction and for the loading of the facility (e.g., construction of base stations and for placing mobiles in service) and must show either that:
  - a) The proposed system will serve a large fleet (at least two hundred [200] mobile units) and will involve a multi-year cycle for its planning, approval, funding, purchase and construction; or
  - b) The proposed system will require longer than twelve (12) months to place in operation because of its purpose, size, or complexity; or
  - The proposed system is to be a part of a coordinated or integrated area-wide system which will require more than a year to plan, approve, fund, and construct; or
  - d) The applicant is a local governmental agency and demonstrates that the government involved is required by law to follow a multi-year cycle for planning, approval, funding and for purchasing the proposed system.

Authorizations under this section are conditioned upon the licensee's compliance with the implementation schedule. Conventional channels not loaded to 70 mobile units may be subject to shared use by the addition of other licensees. The licensee must submit a report to the RPRC and the Commission's Public Safety and Homeland Security Bureau, annually, showing the extent to which the authorized system has been implemented.

## FREQUENCY ASSIGNMENT METHODOLOGY

The Frequency pools that were generated for each county in the Region are deleted

as the Plan has been approved and active over 15 years. All channels are available on an equal basis to all applicants.

## FREQUENCY AVAILABILITY POOL

Channel				
Number		Fixed Base TX	Mobile TX	Channel Use
8CALL90	1	851.0125	806.0125	INTEROP CALLING
guard	ı	851.0250	806.0250	INTEROP CALLING
guaru		851.0250	806.0375	GENERAL ACCESS
2 3		851.0500	806.0500	GENERAL ACCESS
4		851.0625	806.0625	GENERAL ACCESS
5		851.0750	806.0750	GENERAL ACCESS
6		851.0875	806.0875	GENERAL ACCESS
7		851.1000	806.1000	GENERAL ACCESS
8		851.1125	806.1125	GENERAL ACCESS
9		851.1250	806.1250	GENERAL ACCESS
10		851.1375	806.1375	GENERAL ACCESS
11		851.1500	806.1500	GENERAL ACCESS
12		851.1625	806.1625	GENERAL ACCESS
13 14		851.1750	806.1750	GENERAL ACCESS
15		851.1875	806.1875	GENERAL ACCESS
		851.2000	806.2000	GENERAL ACCESS
16		851.2125 851.2250	806.2125	GENERAL ACCESS
17			806.2250	GENERAL ACCESS
18		851.2375	806.2375	GENERAL ACCESS
19		851.2500	806.2500	GENERAL ACCESS
20		851.2625	806.2625	GENERAL ACCESS
21		851.2750	806.2750	GENERAL ACCESS
22		851.2875	806.2875	GENERAL ACCESS
23		851.3000	806.3000	GENERAL ACCESS
24		851.3125	806.3125	GENERAL ACCESS
25		851.3250	806.3250	GENERAL ACCESS
26		851.3375	806.3375	GENERAL ACCESS
27		851.3500	806.3500	GENERAL ACCESS
28		851.3625	806.3625	GENERAL ACCESS
29		851.3750	806.3750	GENERAL ACCESS
30		851.3875	806.3875	GENERAL ACCESS
31		851.4000	806.4000	GENERAL ACCESS
32		851.4125	806.4125	GENERAL ACCESS
33		851.4250	806.4250	GENERAL ACCESS
34		851.4375	806.4375	GENERAL ACCESS
35		851.4500	806.4500	GENERAL ACCESS
36		851.4625	806.4625	GENERAL ACCESS
37		851.4750	806.4750	GENERAL ACCESS
38		851.4875	806.4875	GENERAL ACCESS
			28	

guard		851.5000	806.5000	
8TAC91	39	851.5125	806.5125	INTEROP TACTICAL
guard		851.5250	806.5250	
40		851.5375	806.5375	GENERAL ACCESS
41		851.5500	806.5500	GENERAL ACCESS
42		851.5625	806.5625	GENERAL ACCESS
43		851.5750	806.5750	GENERAL ACCESS
44		851.5875	806.5875	GENERAL ACCESS
45		851.6000	806.6000	GENERAL ACCESS
46		851.6125	806.6125	GENERAL ACCESS
47		851.6250	806.6250	GENERAL ACCESS
48		851.6375	806.6375	GENERAL ACCESS
49		851.6500	806.6500	GENERAL ACCESS
50		851.6625	806.6625	GENERAL ACCESS
51		851.6750	806.6750	GENERAL ACCESS
52		851.6875	806.6875	GENERAL ACCESS
53		851.7000	806.7000	GENERAL ACCESS
54		851.7125	806.7125	GENERAL ACCESS
55		851.7250	806.7250	GENERAL ACCESS
56		851.7375	806.7375	GENERAL ACCESS
57		851.7500	806.7500	GENERAL ACCESS
58		851.7625	806.7625	GENERAL ACCESS
59		851.7750	806.7750	GENERAL ACCESS
60		851.7875	806.7875	GENERAL ACCESS
61		851.8000	806.8000	GENERAL ACCESS
62		851.8125	806.8125	GENERAL ACCESS
63		851.8250	806.8250	GENERAL ACCESS GENERAL ACCESS
64		851.8375	806.8375	GENERAL ACCESS
				GENERAL ACCESS
65		851.8500	806.8500	GENERAL ACCESS GENERAL ACCESS
66		851.8625	806.8625	
67		851.8750	806.8750	GENERAL ACCESS
68		851.8875	806.8875	GENERAL ACCESS
69		851.9000	806.9000	GENERAL ACCESS
70		851.9125	806.9125	GENERAL ACCESS
71		851.9250	806.9250	GENERAL ACCESS
72		851.9375	806.9375	GENERAL ACCESS
73		851.9500	806.9500	GENERAL ACCESS
74		851.9625	806.9625	GENERAL ACCESS
75		851.9750	806.9750	GENERAL ACCESS
76		851.9875	806.9875	GENERAL ACCESS
guard		852.0000	807.0000	
8TAC92	77	852.0125	807.0125	INTEROP TACTICAL
guard		852.0250	807.0250	
78		852.0375	807.0375	GENERAL ACCESS
79		852.0500	807.0500	GENERAL ACCESS
80		852.0625	807.0625	GENERAL ACCESS
81		852.0750	807.0750	<b>GENERAL ACCESS</b>

82		852.0875	807.0875	GENERAL ACCESS
83		852.1000	807.1000	GENERAL ACCESS
84		852.1125	807.1125	GENERAL ACCESS
85		852.1250	807.1250	GENERAL ACCESS
86		852.1375	807.1375	GENERAL ACCESS
87		852.1500	807.1500	GENERAL ACCESS
88		852.1625	807.1625	GENERAL ACCESS
89		852.1750	807.1750	GENERAL ACCESS
90		852.1875	807.1875	GENERAL ACCESS
91		852.2000	807.2000	GENERAL ACCESS
				GENERAL ACCESS
92		852.2125	807.2125	
93		852.2250	807.2250	GENERAL ACCESS
94		852.2375	807.2375	GENERAL ACCESS
95		852.2500	807.2500	GENERAL ACCESS
96		852.2625	807.2625	GENERAL ACCESS
97		852.2750	807.2750	GENERAL ACCESS
98		852.2875	807.2875	GENERAL ACCESS
99		852.3000	807.3000	GENERAL ACCESS
100		852.3125	807.3125	GENERAL ACCESS
101		852.3250	807.3250	GENERAL ACCESS
102		852.3375	807.3375	GENERAL ACCESS
103		852.3500	807.3500	GENERAL ACCESS
104		852.3625	807.3625	GENERAL ACCESS
105		852.3750	807.3750	GENERAL ACCESS
106		852.3875	807.3875	GENERAL ACCESS
107		852.4000	807.4000	GENERAL ACCESS
108		852.4125	807.4125	GENERAL ACCESS
109		852.4250	807.4250	GENERAL ACCESS
110		852.4375	807.4375	GENERAL ACCESS
111		852.4500	807.4500	GENERAL ACCESS
112		852.4625	807.4625	GENERAL ACCESS
113		852.4750	807.4750	GENERAL ACCESS
114		852.4875	807.4875	GENERAL ACCESS
guard		852.5000	807.5000	
•				IN ITED OD TA OTIO 41
8TAC93	115	852.5125	807.5125	INTEROP TACTICAL
guard		852.5250	807.5250	
116		852.5375	807.5375	GENERAL ACCESS
117		852.5500	807.5500	GENERAL ACCESS
118		852.5625	807.5625	GENERAL ACCESS
119		852.5750	807.5750	GENERAL ACCESS
120		852.5875	807.5875	GENERAL ACCESS
121		852.6000	807.6000	GENERAL ACCESS
122		852.6125	807.6125	GENERAL ACCESS
123		852.6250	807.6250	GENERAL ACCESS
124		852.6375	807.6375	GENERAL ACCESS
125		852.6500	807.6500	GENERAL ACCESS
126		852.6625	807.6625	GENERAL ACCESS

40=				0515541 400500
127		852.6750	807.6750	GENERAL ACCESS
128		852.6875	807.6875	GENERAL ACCESS
129		852.7000	807.7000	GENERAL ACCESS
130		852.7125	807.7125	GENERAL ACCESS
131		852.7250	807.7250	GENERAL ACCESS
132		852.7375	807.7375	GENERAL ACCESS
133		852.7500	807.7500	GENERAL ACCESS
134		852.7625	807.7625	GENERAL ACCESS
135		852.7750	807.7750	GENERAL ACCESS
136		852.7875	807.7875	GENERAL ACCESS
137		852.8000	807.8000	GENERAL ACCESS
138		852.8125	807.8125	GENERAL ACCESS
139		852.8250	807.8250	GENERAL ACCESS
140		852.8375	807.8375	GENERAL ACCESS
141		852.8500	807.8500	GENERAL ACCESS
142		852.8625	807.8625	GENERAL ACCESS
143		852.8750	807.8750	GENERAL ACCESS
144		852.8875	807.8875	GENERAL ACCESS
145		852.9000	807.9000	GENERAL ACCESS
146		852.9125	807.9125	GENERAL ACCESS
147		852.9250	807.9250	GENERAL ACCESS
148		852.9375	807.9375	GENERAL ACCESS
149		852.9500	807.9500	GENERAL ACCESS
150		852.9625	807.9625	GENERAL ACCESS
151		852.9750	807.9750	GENERAL ACCESS
152		852.9875	807.9875	GENERAL ACCESS
				GENERAL ACCESS
guard	4=0	853.0000	808.0000	WITER OR TA OTION
8TAC94	153	853.0125	808.0125	INTEROP TACTICAL
guard		853.0250	808.0250	
154		853.0375	808.0375	GENERAL ACCESS
155		853.0500	808.0500	GENERAL ACCESS
156		853.0625	808.0625	GENERAL ACCESS
157		853.0750	808.0750	GENERAL ACCESS
158		853.0875	808.0875	GENERAL ACCESS
159		853.1000	808.1000	GENERAL ACCESS
160		853.1125	808.1125	GENERAL ACCESS
161		853.1250	808.1250	GENERAL ACCESS
				GENERAL ACCESS
162		853.1375	808.1375	
163		853.1500	808.1500	GENERAL ACCESS
164		853.1625	808.1625	GENERAL ACCESS
165		853.1750	808.1750	GENERAL ACCESS
166		853.1875	808.1875	GENERAL ACCESS
167		853.2000	808.2000	GENERAL ACCESS
				GENERAL ACCESS
168		853.2125	808.2125	
169		853.2250	808.2250	GENERAL ACCESS
170		853.2375	808.2375	GENERAL ACCESS
171		853.2500	808.2500	GENERAL ACCESS

172	853.2625	808.2625	GENERAL ACCESS
173	853.2750	808.2750	GENERAL ACCESS
174	853.2875	808.2875	GENERAL ACCESS
175	853.3000	808.3000	GENERAL ACCESS
176	853.3125	808.3125	GENERAL ACCESS
177	853.3250	808.3250	GENERAL ACCESS
178			
	853.3375	808.3375	GENERAL ACCESS
179	853.3500	808.3500	GENERAL ACCESS
180	853.3625	808.3625	GENERAL ACCESS
181	853.3750	808.3750	GENERAL ACCESS
182	853.3875	808.3875	GENERAL ACCESS
183	853.4000	808.4000	GENERAL ACCESS
184	853.4125	808.4125	GENERAL ACCESS
185	853.4250	808.4250	GENERAL ACCESS
186	853.4375	808.4375	GENERAL ACCESS
187	853.4500	808.4500	GENERAL ACCESS
188	853.4625	808.4625	GENERAL ACCESS
189	853.4750	808.4750	GENERAL ACCESS
190	853.4875	808.4875	GENERAL ACCESS
191	853.5000	808.5000	GENERAL ACCESS
192	853.5125	808.5125	GENERAL ACCESS
193	853.5250	808.5250	GENERAL ACCESS
194	853.5375	808.5375	GENERAL ACCESS
195	853.5500	808.5500	GENERAL ACCESS
196	853.5625	808.5625	GENERAL ACCESS
197	853.5750	808.5750	GENERAL ACCESS
198	853.5875	808.5875	GENERAL ACCESS
199	853.6000	808.6000	GENERAL ACCESS
200	853.6125	808.6125	GENERAL ACCESS
201	853.6250	808.6250	GENERAL ACCESS
202	853.6375	808.6375	GENERAL ACCESS
203	853.6500	808.6500	GENERAL ACCESS
204	853.6625	808.6625	GENERAL ACCESS
205	853.6750	808.6750	GENERAL ACCESS
206	853.6875	808.6875	GENERAL ACCESS
207	853.7000	808.7000	GENERAL ACCESS
208	853.7125	808.7125	GENERAL ACCESS
209	853.7250	808.7250	GENERAL ACCESS
210	853.7375	808.7375	GENERAL ACCESS
211	853.7500	808.7500	GENERAL ACCESS
212	853.7625	808.7625	GENERAL ACCESS
213	853.7750	808.7750	GENERAL ACCESS
214	853.7875	808.7875	GENERAL ACCESS
215	853.8000	808.8000	GENERAL ACCESS
216			GENERAL ACCESS
	853.8125	808.8125	
217	853.8250	808.8250	GENERAL ACCESS
218	853.8375	808.8375	GENERAL ACCESS

219	853.8500	808.8500	GENERAL ACCESS
220	853.8625	808.8625	GENERAL ACCESS
221	853.8750	808.8750	GENERAL ACCESS
222	853.8875	808.8875	GENERAL ACCESS
223	853.9000	808.9000	GENERAL ACCESS
224	853.9125	808.9125	GENERAL ACCESS
225	853.9250	808.9250	GENERAL ACCESS
226	853.9375	808.9375	GENERAL ACCESS
227	853.9500	808.9500	GENERAL ACCESS
228	853.9625	808.9625	GENERAL ACCESS
229	853.9750	808.9750	GENERAL ACCESS
230	853.9875	808.9875	GENERAL ACCESS

# ORGANIZATION AND OPERATION PROCEDURES

## **PURPOSE**

The development and maintenance of a plan, and planning group, to ensure that maximum public benefit will be derived from the communication systems governed by Federal Communications Commission (FCC) rules for Public Safety Radio Service and Special Emergency Radio Services as outlined by the Commission's Rules and Regulations.

## **OBJECTIVE**

Ensuring that unassigned frequencies are distributed in an equitable fashion with priority established to ensure the most efficient utilization of assigned frequencies. Priority is to be given to Public Safety agencies that are primarily responsible for the protection of life and property.

## **III. AUTHORITY**

Authority for the carrying out of assigned tasks is derived from the FCC (FCC Report and Order, Docket 87-112).

## **COMPOSITION OF REGION**

Region 34 shall be composed of the State of Oklahoma.

## ORGANIZATIONAL STRUCTURE

The Oklahoma (Region 34) Plan Review Committee shall be comprised of the Region Chairperson, a Vice Chairperson, a Technical Committee Chairperson; and the Association of Public-Safety Communication Officials, International (APCO) Frequency Advisor as an ex-officio member.

The Regional Chairperson shall select a Vice Chairperson and a Technical Committee Chairperson from among agency representatives. In the event the Regional Chairperson abdicates or becomes incapacitated, the Chair will then pass to the current Vice Chairperson.

In the event the Vice Chairperson or Technical Committee Chairperson abdicates or becomes incapacitated, the Chair shall select a replacement from among agency representatives

## **CONDUCT OF BUSINESS**

All meetings shall be held in accordance with the Oklahoma Open Meetings Act.

Parliamentary procedures (Robert's Rules of Order) shall be followed.

All meeting dates will be set by the Region Chairperson. There shall be at least ten (10) calendar days-notice of said meetings. The agenda for all such meetings shall be set by the Region Chairperson. Meetings will be identified as in-person at specific host locations, virtual, or a combination of in-person and virtual.

A quorum shall be required to conduct a meeting.

Each member of the Regional Committee shall have one (1) vote per agency represented.

Votes may be cast by members of the Committee in actual attendance. No absentee or proxy votes shall be permitted.

Members present shall record their vote as yea or nay.

In the event of a tie vote, the deciding vote shall be cast by the ex-officio member, the APCO representative.

The Chairperson shall cause an official sign-in/attendance sheet to be accomplished for all meetings. The sign-in sheet shall reflect the name of the individuals in attendance and the Public Safety agency they represent.

Proceedings of all meetings will be recorded.

Persons addressing comments or interrogatories to the Committee shall identify themselves and the agency they represent.

## **DEFINITIONS**

Eligible agency-Any entity, agency or sub-agency which is eligible to be licensed under subparts B or C of Part 90 of the FCC Rules and Regulations.

Agency representative- A person who is employed by an eligible participating agency. In case the agency is comprised of volunteers, any person who is a member in good standing of the agency. A person may represent only one (1) agency at a meeting.

## REGIONAL PLAN REVIEW COMMITTEE

## **MEMBERS AS OF THIS REVISION**

Mr. Scott Walsh, Chairperson City of Midwest City

100 North Midwest Blvd Midwest City, OK 73110 Phone: 405-739-1372

Mr. Michael Wright, Vice Chairman City of Tulsa

3411 N Columbia Ave Tulsa, OK 74014 Phone: 918-591-4146

Mr. Martin T. Vinson, 10609 Turnberry Ln

Technical Committee Chairperson Oklahoma City, OK 73170 Phone: 870-209-3088

Mr. Sean G Douglas, (Ex Officio) OK Office of Homeland Security
APCO Frequency Advisor 3600 N Martin Luther King Ave

Oklahoma City, OK 73111

## **GLOSSARY**

**Adjacent channel.** The channel directly above or below the one in question.

**APCO -** Association of Public-Safety Communications Officials- International

**Channel Loading.** The number of mobile transmitters authorized to operate on a particular channel within the same service area.

**Combiner.** A device that isolates multiple transmitters connected to a single transmission line and antenna from one another and allowing simultaneous operation of each.

**Conventional radio system.** A method of operation in which one or more radio frequency channels are assigned to mobile and base stations but are not employed as a trunked group.

**Co-channel.** The same channel as the one in question.

**CTCSS.** Continuous Tone Coded Squelch System. A system that uses a particular tone, usually subaudible or below the level of hearing, to open the squelch of the receiving station. Different tones on the same channel permit multiple users to exist but not hear each other's transmissions unless their tones are the same.

**dB.** The decibel is a measure of relative strength of power.

**dBμ.** This is a measure of signal strength using 1uv or 1 micro-volt (1 millionth of a volt) as the reference.

**Environment.** The actual physical terrain, including the degree of forestation and/or man- made structures, which may adversely affect a transmitted signal.

**ERP-Effective Radiated Power.** The power supplied to an antenna multiplied by the relative gain of the antenna in a given direction.

**FCC.** Federal Communications Commission. The federal rule-making and regulatory agency with authority over allocation and use of radio frequencies and those who use them.

**Hz.** Hertz or cycles-per-second (CPS).

*Interoperability.* The ability to communicate with units licensed under a different radio service, call sign, or agency affiliation; as defined by the FCC, without violating the federal regulations forbidding cross-service use of a single radio.

*Meeting.* A meeting of the Regional Planning Committee, the Regional Plan Update Committee, or any of the Sub-Comittees may be conducted in-person, virtual,

or a combination at the direction of the meeting Chair. Virtual meetings will utilize generally available conferencing software at no cost to the participant other than internet access.

**MHz.** Mega-Hertz or million cycles-per-second (CPS).

**Mobile relay station.** A base station in the mobile service authorized to re-transmit automatically on a mobile service frequency communications which originate on the transmitting frequency of the mobile station.

**Network.** The interconnecting radio link built upon the five (5) Interoperable Channels that provides communication between differing radio service users for the duration of an emergency situation requiring multi-service response.

**NPSPAC.** National Public Safety Planning Advisory Committee.

**Part 90.** A section of federal rules and regulations governing the licensing of and operation on certain radio frequencies as well as the licensees using them.

**Primary network control.** The agency assuming responsibility for the duration of an incident requiring a multi-agency response. This will vary depending on the type of incident and actual location.

**PSTN.** Public Switched Telephone Network.

#### Public Safety Radio Services.

As defined by the FCC these services are as follows:

- Local Government Radio Service
- Police Radio Service
- Highway Maintenance Radio Service
- Forestry Conservation Radio Service
- Special Emergency Radio Service

**Region.** The entire state of Oklahoma comprises Region 34.

**RPRC.** Regional Planning Review Committee. A committee that will regularly review the operation and implementation of the 806-809/851-854 MHz plan and make any necessary changes to better implement the Plan for the users.

**SERS.** Special Emergency Radio Services. As defined by the FCC, radio users in this category include the following; Medical services, handicapped persons, disaster relief agencies, rescue organizations, veterinarians, school buses, beach patrols, establishments in isolated areas, communications standby facilities, and emergency repair of public communications facilities.

*Trunk group.* All of the mobile or base units that are able to communicate with one another but isolated from other such groups by a coded identifier that synchronizes

with every transmission.

**Trunk.** A one- or two-way channel provided as a common artery between switching equipment. In the case of trunked radio, the switching equipment will be the mobile or base radios and the mobile relay they are repeated through.

**Trunked radio system.** A method of operation in which a number of radio frequency channel pairs are assigned to mobile and base stations in the system for use as a trunk group.