
Council of Governments

Counties

Alamo Area COG

Atascosa
Bandera
Bexar
Comal
Frio
Gillespie
Guadalupe
Karnes
Kendall
Kerr
Medina
Wilson

Coastal Bend COG

Aransas
Bee
Brooks
Duval
Jim Wells
Kleberg
Kenedy
Live Oak
McMullen
Nueces
Refugio
San Patricio

**Golden Crescent Regional
Planning Commission**

Calhoun
DeWitt
Goliad
Gonzales
Jackson
Lavaca
Victoria

**Lower Rio Grande Valley
Development Council**

Cameron
Hidalgo
Willacy

**Middle Rio Grande
Development Council**

Dimmit
Edwards
Kinney
La Salle
Maverick
Real
Uvalde
Val Verde
Zavala

**South Texas Development
Council**

Jim Hogg
Starr
Webb
Zapata



REGION 53 700 MHz Plan

(Texas - San Antonio, South Texas)



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Attachment 1: Combined Inter-Regional Agreements

Attachment 2: Combined Letters of Concurrence

1. 764-776/794-806 MHz Regional Plan for Region 53 (South Texas, San Antonio)

This document is the regional plan for Region 53 (South Texas, San Antonio) describing how the 746- 776/796-806 MHz General Use frequencies will be allocated and implemented in the region.

1.1 Regional Officers and Membership

At the time of transmittal of this plan to the FCC, the following individuals serve in leadership roles of the Region 53 Regional Planning Committee (RPC).

The Chairman of Region 53 is Richard Morales, Jr. His contact information is:

Richard Morales, Jr.
Information Technology Manager
Radio Services Communications Division (ITSD)
City of San Antonio, Texas
(210) 207-7022 or cell (210) 215-7022
Richard.Morales@Sanantonio.Gov

The Vice-Chairman of Region 53 is Derrick Walker. His contact information is:

Derrick Walker
Radio System Manager
City of Live Oak Police Department
(210) 653-9140 ext. 107 or cell (210) 793-3743
dwalker@liveoaktx.net

The Secretary /Treasurer of Region 53 is Carol Sutherland. Her contact information is:

Carol Sutherland
Strategic Communications Planning
Texas Department of Public Safety (support)
(210)844-8969; email carol.sutherland@dps.texas.gov.

From time to time, as described in the Committee By-Laws (Appendix A) these positions will be subject to re-election. At any such time as one of these positions changes, the Chair will be responsible for taking the following actions:

- Providing notice to the FCC of the changes;
- Providing notice to the entity maintaining the CAPRAD system of the changes;
- Modifying the Region 53 information on www.NIIX.org to reflect the changes.

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

Membership in the Region 53 RPC is open to any interested party. Committee officer requirements, voting procedures and membership attendance requirements are listed in the Region 53 Regional Planning Committee Bylaws. Appendix A contains these bylaws. Appendix B includes a list of Region 53's members and their agency/affiliation through the date of plan submission. Voting and operating procedures are described in Section 2.3 of this plan.

1.2 FCC 90.527 – Major Elements of the Plan

This section identifies the location of each FCC regional plan requirement for 764-776/794-806 MHz Regional Plans:

(a) Common elements. Regional plans must incorporate the following common elements:

(1) Identification of the document as the regional plan for the defined region with the names, business addresses, business telephone numbers, and organizational affiliations of the chairpersons and all members of the planning committee. See Sections:

- Section 1: 764-776/794-806 Regional Plan for Region 53 (South Texas – San Antonio)
- Appendix B: Region 53 Membership List

(2) A summary of the major elements of the plan and an explanation of how all eligible entities within the region were given an opportunity to participate in the planning process and to have their positions heard and considered fairly. See Sections:

- Section 1.2: FCC 90.527- Major Elements of the Plan
- Section 2.2: Notification Process

(3) A general description of how the spectrum would be allotted among the various eligible users within the region with an explanation of how the requirements of all eligible entities within the region were considered and, to the degree possible, met. See Section:

- Section 3.1: Allotment of Narrowband General Use Channels

(4) An explanation as to how needs were assigned priorities in areas where not all eligible entities could receive licenses. See Section:

- Section 4: Priority Matrix

(5) An explanation of how the plan had been coordinated with adjacent regions. See Section:

- Section 6: Coordination with Adjacent Regions

(6) A detailed description of how the plan put the spectrum to the best possible use by requiring system design with minimum coverage areas, by assigning frequencies so that maximum frequency reuse and offset channel use may be made, by using trunking, and by requiring small entities with minimal requirements to join together in using a single system where possible. See Section:

- Section 7.2: Spectrum Efficiency Standards

(7) A detailed description of the future planning process, including, but not limited to, amendment process, meeting announcements, data base maintenance, and dispute resolution. See Sections:

- Section 2.2: Notification Process
- Section 2.4: Dispute Resolution – Intra Regional
- Section 2.5: Dispute Resolution – Inter Regional
- Section 2.5: Plan Amendments
- Section 9: Future Planning

(8) A certification by the regional planning chairperson that all planning committee meetings, including subcommittee or executive committee meetings were open to the public. See: Appendix K.

2. Regional Planning Committee

2.1 Description of Region

Region 53 is comprised of 47 counties in South Texas. The following figure shows the geographical relationship of the counties to each other and to the rest of the state.

Region 53

(Texas-San Antonio, South Texas)



The following tables list each of the 47 counties and indicate the following information for each county:

- County area in square miles.
- County’s estimated population in 2010 (if available).
- Approximate maximum ground level elevation (above sea level) in the county.
- County’s population density (persons per square mile) used to develop the 700 MHz channel allocations.
- General description of the county’s topography.

Counties Characteristics and Topography

County	Area (sq mi)	Population (2010 est.)	~Min. Elev (ft. asl)	~Max. Elev (ft. asl)	Population Density /sq. mi.	Topographic Characterization	Metropolitan/ Micropolitan Statistical Area
Aransas	252	23,158	0	16	91.9	Coastal marshland and oak and native grass prairies	Corpus Christi Metro
Atascosa	1,232	44,911	219	587	36.5	Fertile rolling farm and ranch grassland	San Antonio Metro
Bandera	792	20,485	1,079	1,715	25.9	Texas Hill Country, Edwards Plateau and Aquifer Recharge Zone	San Antonio Metro
Bee	880	31,861	45	239	36.2	Rolling farm and ranch grassland with large oak and mesquite trees	Beeville Micro
Bexar	1,247	1,714,773	505	1,338	1,375	Texas Hill Country with rolling fertile farm lands and hilly, rocky crags	San Antonio Metro
Brooks	943	7,223	55	318	7.7	Large oak stands, dense brush, farm and ranch plains abutting the coastline	None
Calhoun	512	21,381	0	19	41.7	Upper Texas gulf coast with beaches and flat marsh grassland	Victoria Metro
Cameron	906	406,220	19	36	448.5	Lower Rio Grande Valley coastal plains with agricultural acreage	Harlingen Metro
Comal	561	108,472	660	1,476	193	Rolling hills, rocky crags with dense vegetation, abundant waterways and recreation areas	San Antonio Metro
DeWitt	909	20,097	91	360	22.1	Flat to rolling farm and ranch pastures	None
Dimmit	1,730	9,996	449	672	7.5	Heavy brush covered terrain in ranching and hunting enterprises	None
Duval	1,792	11,782	259	780	6.6	Scrub brush and cactus covered ranchland	None
Edwards	2,120	2,002	1,328	2,378	0.9	Some of the highest points in the state merging to desert-like covered flat lands	None
Frio	1,133	17,217	380	764	15.2	Heavy brush land to juniper covered hills	None
Gillespie	1,061	24,837	1,105	2,244	23.4	Hill country hub with fertile valleys and granite rock escarpments	None

Counties Characteristics and Topography - continued

County	Area (sq mi)	Population (2010 est.)	~Min. Elev (ft. asl)	~Max. Elev (ft. asl)	Population Density /sq. mi.	Topographic Characterization	Metropolitan/ Micropolitan Statistical Area
Goliad	954	7,210	52	298	8.4	Rolling coastal grasslands with fertile vegetated prairies	Victoria Metro
Gonzales	1,068	19,807	193	505	18.6	Hills thick with oak and native vegetation in non-farming and ranching areas	None
Guadalupe	711	131,533	344	793	185.0	Foothills of the Texas hill country with dense oak, juniper, native grasses and trees	San Antonio Metro
Hidalgo	1,570	774,769	26	328	493.6	Flat Rio Grande Valley farm and ranchland	McAllen, Edinburg, Mission Metro
Jackson	829	14,075	0	164	17.0	Upper Texas gulf coast flat marsh grassland and rice farming paddies	Victoria Metro
Jim Hogg	1,136	5,301	246	744	4.7	Brush covered caliche hills and ranchland	None
Jim Wells	865	40,838	16	446	47.2	Coastal prairie abutting near-desert lands	Alice Micro
Karnes	750	14,824	180	475	19.8	Hills and coastal plains in mineral valley	None
Kendall	662	33,410	374	2,043	50.4	Granite, limestone and caliche hills with valleys of juniper, oak and mesquite canopies	San Antonio Metro
Kenedy	1,457	416	0	68	0.3	Lower Texas coastline with san dunes and ranchland with heavy brush	Kingsville Micro
Kerr	1,106	49,625	1,381	2,345	44.9	Hill country hub with fertile valleys and granite and limestone rock escarpments	Kerville Micro
Kinney	1,363	3,598	790	1,975	2.6	Heavy brush covered rolling terrain	None
Kleberg	871	32,061	0	154	36.8	Coastal prairie abutting near-desert lands	Kingsville Micro
La Salle	1,489	6,886	259	583	4.6	Desert-like scrub brush interspersed with oak and mesquite groves	None
Lavaca	970	19,263	85	505	19.9	Coastal plains with native grasses and trees	None

Counties Characteristics and Topography - continued

County	Area (sq mi)	Population (2010 est.)	-Min. Elev (ft.asl)	-Max.Elev (ft. asl)	Population Density /sq. mi.	Topographic Characterization	Metropolitan/ Metropolitan Statistical Area
Live Oak	1,036	11,531	91	498	11.1	Heavy oak and mesquite tree canopies on rolling terrain and grass lands	None
Maverick	1,280	54,258	538	935	42.4	Rolling brush and cactus covered limestone and caliche berms	Eagle Pass Micro
McMullen	1,113	707	150	629	0.6	Thick brush covered land	None
Medina	1,328	46,006	541	1,981	34.6	Tree covered hills on the edge of the balcones escarpment	San Antonio Metro
Nueces	836	340,223	0	98	407.1	Sea port located on gulf coast; coastal flat marsh beaches and grass lands near agriculture lands	Corpus Christi Metro
Real	699	3,309	1,374	2,385	4.7	Balcones mountain range with spring fed streams and rivers	None
Refugio	770	7,383	0	75	9.6	Coastal grass lands of the gulf coast	None
San Patricio	692	64,804	0	170	93.7	Grass and tree covered agriculture prairies	Corpus Christi Metro
Starr	1,223	60,968	124	561	49.9	Dense scrub brush covered caliche hills	Rio Grande City, Roma Micro
Uvalde	1,557	26,405	652	1,975	17.0	Tree covered hills on the edge of the balcones escarpment	Uvalde Micro
Val Verde	3,170	48,879	849	2,194	15.4	Brush covered caliche hills and ranchland	Del Rio Micro
Victoria	883	86,793	0	187	98.3	Inland port located on gulf coast; beaches transitioning to ranchland	Victoria Metro
Webb	3,357	250,304	269	702	74.6	Heavy brush covered ranchland	Laredo Metro
Willacy	597	22,134	0	55	37.1	Coastal plains with beaches and agriculture acreage	Raymondville Micro
Wilson	807	42,910	282	777	53.2	Rolling hills and prairies	San Antonio Metro
Zapata	997	14,018	301	574	14.1	Scrub brush, cactus berms and ranchland	None
Zavala	1,298	11,677	528	951	9.0	Dense cactus and brush covered terrain	None

The region is characterized by the lower Texas Gulf Coast beaches and marsh grasslands to the east. The south and west area of the region is the international border with Mexico. Rolling hill country with rock cliffs and deep sided canyons make up the northern area of Region 53. Dense vegetation, recreational waterways, dry scrub brush acreage and fertile farm and ranch grasslands are scattered throughout the region.

Other than the gulf coast, the most significant geological feature of the region is the Edwards Plateau and Aquifer Recharge Zone which runs through portions of Edwards, Kinney, Real, Kerr, Bandera, Uvalde, Medina, Kendall, Bexar, and Comal counties. The San Antonio segment of the Aquifer extends in a 160 mile arch-shaped curve through these counties. The rugged, rolling topography of the Aquifer is covered with thick woodlands of oak and cedar.

Population densities (based on 2010 census data) in the region range from a rural .9 persons per square mile in Edwards County to an urban 1,375 persons per square mile in Bexar County. There are ten cities with populations exceeding 50,000 in the region.

CITY	COUNTY	POPULATION
Brownsville	Cameron	175,023
Corpus Christi	Nueces	305,215
Edinburg	Hidalgo	77,100
Harlingen	Cameron	64,849
Laredo	Webb	236,091
McAllen	Hidalgo	129,877
Mission	Hidalgo	77,058
New Braunfels	Comal	57,740
San Antonio	Bexar	1,327,407
Victoria	Victoria	62,592

The variety of terrain and population densities presents some unique problems in achieving full radio coverage of some jurisdictions' areas. All these factors were considered when designing flexibility into this plan.

In previous NPSPAC 821 MHz frequency allotments, spectrum amounts disproportionate to population densities were allotted. In the 700 MHz band, county allotments for the narrowband channels have been developed based on terrain characteristics and population densities both within the region and relative to adjacent regions. Due to the region's diverse population densities and the scarce spectrum resources in the region's heavily populated areas, it is anticipated the majority of requests for voice/data spectrum will be from the metropolitan areas, several of which currently operate existing 800 MHz radio networks.

There are six Metropolitan Statistical Areas located in the Region. Their names, counties in which they are located, and their estimated 2010 populations (per the Texas State Demographer) are:

MSA	County	Population
Brownsville-Harlingen	Cameron	398,624
Corpus Christi	Aransas, Nueces, San Patricio	418,307
Laredo	Webb	241,974
McAllen-Edinburg-Mission-Pharr	Hidalgo	747,512
San Antonio-New Braunfels	Atascosa, Bandera, Bexar, Comal, Guadalupe, Kendall, Medina, Wilson	2,090,692
Victoria	Calhoun, Goliad, Victoria	116,453

It is anticipated that other areas within Region 53 may request 700 MHz channels from established county pool allotments to either expand existing 800 MHz systems or develop new 700 MHz systems.

2.2 Notification Process

Richard Morales, vice-chairman of the Region 53 - 821 MHz Regional Review Committee, was the 700 MHz Convener for the initial meeting. The first 700 MHz RPC meeting date was August 11, 2011. Interested parties were given more than 60 days' notice prior to the first meeting. Announcements of the date, time, location, and purpose of the first meeting were sent to the FCC Wireless Telecommunications Bureau and published on each of the six Region 53 Councils of Governments websites and the Texas Department of Public Safety website. More than 590 copies of the first meeting notice were mailed and emailed to all known federal, state, and local public safety agencies within the region. Legal notices were published in the major newspaper serving each Council of Government.

The Secretary utilized many resources to develop the master mailing list of federal, state, and local public safety agencies with offices in the region. Agencies providing contact information include: Sheriff's Association of Texas, Texas Department of Public Safety, Southwest Border Communications Working Group, Texas Association of Regional Councils, Alamo Area Council of Government (COG), Coastal Bend COG, Golden Crescent Regional Planning Commission (COG), Lower Rio Grande Valley Development Council (COG), Middle Rio Grande Development Council (COG), and South Texas Development Council (COG). A sample mailing list is included in Appendix C.5.

There are three federally recognized Indian tribes in Texas today. Based on information from the Bureau of Indian Affairs, the only Native American tribal reservation located within Region 53 is the:

- Kickapoo Traditional Tribe of Texas in Eagle Pass, Texas.

Copies of the first meeting's notice were mailed to the Tribal Police Chief and the second Region 53 meeting was in Eagle Pass, on September 29, 2011, 8.8 miles from the Tribe Reservation. A representative from the Kickapoo Traditional Tribe attended the Eagle Pass Region 53 meeting.

Copies of the public notice issued by the FCC, the mailed notice of Region 53's meeting, the notice placed on the websites and the ads placed in multiple newspapers are included in Appendix C.1.

At the first meeting all participants were asked by which methods they had received notice of the meeting. The great majority of participants had received the direct mail and email notices, and preferred electronic notification. Therefore, it was decided to discontinue expensive newspaper notices for future meetings, and use email and websites for future meeting notifications and Region 53 business.

Subsequent meetings of the committee were also publicized by FCC Notice, postings on the Councils of Governments and DPS websites, and the Texas Region 53 700 Planning Committee community website at www.NIIX.org, and email notices. These subsequent notices were also issued two to four weeks before the meeting date, and copies are included in Appendix C.2.

Meetings of the committee were held at various geographic locations throughout the region to promote participation of representatives from all entities within the region. Five of the six Councils of Governments making up Region 53 have hosted RPC meetings in their area thus far. WebEx attendance is offered as an alternative participation.

Since Region 53 is adjacent to the international border with Mexico participation by the Texas Department of Public Safety was common.

The Region 53 - 700 MHz master membership and point-of-contact (POC) list was created March 2011 and is updated routinely as information is verified. The POC list is under the Texas Region 53 community at www.NIIX.org. This website and membership list is also used to exchange information as well as disseminate planning documents, meeting times, dates, locations, and agendas throughout the regional planning process.

2.3 Operations of the Regional Planning Committee

This committee uses Robert's Rules of Order to conduct meetings. All decisions are made by clear consensus vote with each public safety agency in attendance having one (1) vote. Additional voting member considerations are listed in the Region 53 Bylaws, Appendix A.

The meetings are open to all interested persons and public input time is provided for anyone to express a viewpoint or to have input to the regional planning process. Appendix K is a Certification of Open Meetings. Any changes to the regional plan must be voted on and

approved by a majority of members attending a full Regional Planning Committee meeting, in accordance with the procedures contained in Section 2.6 of this plan.

Officers of the committee are the chairman, vice-chairman and secretary. They are elected for a term of five years, or until their successors, if any, are chosen, or in each case until he or she sooner dies, resigns, is removed or becomes disqualified. If the chairman is unable to serve a complete term, the vice-chairman will serve as chairman until the next committee meeting.

Invitees are encouraged to provide input into the planning process. During the meetings, participants are encouraged to comment on the meeting's agenda items and any other pertinent matters. Comments may be heard at the meetings, provided ahead of the meetings on the web sites, and made directly to the chairman, other committee officers, and the subcommittee chairmen.

When comments are made at meetings, the chairman acknowledges the question/comment, and deliberation follows until the commenting party is satisfied or until additional information can be gathered and presented at the next meeting. If voting is necessary, Roberts Rules of Order are followed.

Texas has formed a Statewide Interoperability Executive Committee (SIEC) to manage the 700 MHz interoperability channels. A link to the Texas Statewide Interoperability Channel Plan can be found in Appendix D: 700 MHz Interoperability Channel Recommended Nomenclature and Texas Statewide Interoperability Committee Guidelines. The Texas Statewide Interoperability Coordinator (SWIC) works closely with the SIEC and Region 53 officers.

Subcommittees: Subcommittees have been formed as needed to work on specific issues. At the first meeting three subcommittees were formed. These subcommittees are intended to work on the details of specific issues and make recommendations to the full committee for the development of the regional plan. Participation in subcommittees is open to any member. The chairman of the RPC appoints each subcommittee chairman. The initial Region 53 subcommittees and their current chairmen are listed below:

- Bylaws: Carol Edgett, Comal County
- Technology/Software/Interoperability: Michael Quinn, Alamo Area Council of Governments
- Peer Review / Dispute Resolution: Joe Jarrett, Texas DPS Frequency Coordinator

Meetings: An annual meeting of the full committee shall be held in San Antonio, Texas on the first Thursday of March of each year, or if that date is a legal holiday, then on the next succeeding business day that is not a legal holiday.

Quarterly meetings of the committee shall be held the first Thursday of June, September, and December of each year at a location to be determined by the Committee. The chairman also

has the authority to call meetings whenever he/she deems it necessary or in the best interest of the region to convene. In an attempt to offer as many people as possible the opportunity to contribute to the committee, some of the meetings have been, and will continue to be held in various locations within Region 53.

A chronological list of meetings, meeting announcements, agendas, and meeting minutes documenting Region 53's progress in 700 MHz development is located in Appendix C of this document.

2.4 Dispute Resolution: Intra-Regional

In the event an agency disputes the implementation of all or parts of this plan, the agency must notify the chairman of the dispute in writing. The chairman will first attempt to resolve the dispute on an informal basis. If a party to the dispute employs the chairman, then the vice chairman will attempt resolution. If after 45 days the dispute is not resolved, the chairman (or vice chairman) will hand-off the dispute to the Peer Review / Dispute Resolution Subcommittee.

In order to ensure that the appeal process is open and understandable to everyone, the RPC has developed the following procedures. Those involved in the appeal process can expect the RPC and its members to follow these procedures (as may be amended from time to time). Where any matter arises during the course of an appeal that is not addressed in this document, the RPC will do whatever is necessary to enable it to adjudicate the appeal fairly, effectively, and completely. As the RPC gains experience, it will refine and, if necessary, change its policies. Any changes made to the procedure will require an administrative modification to the Regional Plan and will be made available to the public. The RPC will make every effort to process appeals in a timely fashion and issue decisions expeditiously.

A. If any subcommittee member becomes aware of any facts that would lead an informed person, viewing the matter reasonably and practically, to conclude that another member, whether consciously or unconsciously, would not decide a matter fairly, that member will be prohibited from conducting the appeal unless consent is obtained from all parties to continue. In addition, any party to an appeal may challenge a member on the basis of real or a reasonable apprehension of bias.

B. To ensure the appeal process is kept open and fair to the participants, any correspondence to the subcommittee must be sent to its Chair and be copied to all other subcommittee members and other parties to the appeal, if applicable. Subcommittee members will not contact a party on any matter relevant to the merits of the appeal, unless that member puts all other parties on notice and gives them an opportunity to participate. The appeal process is public in nature and all meetings regarding the appeal will be open to the public.

C. The subcommittee hears appeals from a determination or assignment by the RPC and includes the following: number of channels assigned, interference, or any other criteria that the region shall establish.

D. An official of the entity who filed the original application to the RPC must be the person who files the appeal on behalf of the entity.

E. To serve a notice of appeal upon the RPC: The notice of appeal may be “delivered” by mail, courier, e-mail (must be on the appealing entity’s official letterhead and include the originator’s signature, such as using a scanned image in Portable Document Format of an original letter) or hand delivered, to the Chair and Secretary of the RPC. The Secretary will in-turn transmit notice of the appeal to all then-current RPC members via Region 53 Membership POC email list within 10 working days of receipt. To be accepted for consideration the notice of appeal must include:

1. The name and address of the appellant;
2. The name of the person, if any, making the request for an appeal on behalf of the appellant;
3. The address for service of the appellant;
4. The grounds for appeal (a detailed explanation of the appellant’s objections to the determination - describe errors in the decision);
5. A description of the relief requested (what the appellant wants the RPC to do at the end of the appeal);
6. The signature of the appellant or the appellant’s representative.

F. To appeal a determination or assignment, the entity that is subject to the determination must deliver a notice of appeal within twenty-one (21) calendar days after receiving the decision. If a notice of appeal is not delivered within the time required, the right to an appeal is lost.

G. The RPC has the discretion to extend the time to appeal either before or after the twenty-one (21) calendar day deadline. A request for an extension should be made to the Chair and Secretary in writing, and include the reasons for the delay in filing the notice of appeal, and any other reasons which the requester believes support an extension of time to file the appeal. In deciding whether to grant an extension, the RPC will consider whether fairness requires an extension. The RPC will consider the length of the delay, the reasons for the delay, any prejudice to those affected by the delay, and any adverse impact that may result from an extension. Other factors not identified here could also be relevant, depending on the circumstances of the particular case.

H. The RPC may reject a notice of appeal if it is determined that the appellant does not have standing to appeal, or the RPC does not have jurisdiction over the subject matter or the remedy sought. Before an appeal is rejected, the RPC Chair will inform the appellant of this in writing, with reasons, and give the appellant a twenty-one (21) calendar day opportunity to make additions or corrections.

I. The Peer Review Subcommittee has the discretion to add any other person who may be “affected” by the appeal as a party to the appeal. Anyone desiring to obtain party status should make a written request to the Peer Review Subcommittee Chair as early as possible.

The written request should contain the following information:

- The name, address, telephone number and email address (if any), of the person submitting the request;
- A detailed description of how the person is “affected” by the notice of appeal;
- The reasons why the person should be included in the appeal;
- The signature of the person submitting the request.

J. The Peer Review Subcommittee may also invite or permit someone to participate in a hearing as an intervener. Interveners are generally individuals or groups that do not meet the criteria to become a party (i.e. “may be affected by the appeal”) but have sufficient interest in, or some relevant expertise or view in relation to the subject matter of the appeal. Anyone wanting to take part in an appeal as an intervener should send a written request to the Peer Review Subcommittee Chair. The written request should contain information that qualifies the intervener’s interest and expertise to assist in the matter while also demonstrating why they should not be considered a party to the appeal. Prior to inviting or permitting a person to participate in a proceeding as an intervener, or deciding on the extent of that participation, the Peer Review Subcommittee will provide all parties with an opportunity to comment if they wish to do so.

K. An appeal may be conducted by way of written submissions, oral hearing or a combination of both. The Peer Review Subcommittee will determine the appropriate type of appeal after a complete notice of appeal has been received.

L. The Peer Review Subcommittee will follow the general rule that the burden or responsibility for proving a fact lies with the person who asserts it.

M. Any party intending to present expert evidence at a hearing will be required to provide the subcommittee, and all other parties to the appeal, with reasonable advance notice that an expert will be called to give an opinion. The notice should include a brief statement of the expert’s qualifications and areas of expertise. If a party intends to produce, at a hearing, a written statement or report prepared by an expert, a copy of the statement or report should be provided to the Subcommittee and all parties to the appeal within a reasonable time before the statement or report is given in evidence. Unless there are compelling reasons for later admission, expert reports should be distributed not less than twenty-one (21) calendar days prior to the hearing date.

N. If a party will be referring to a document that was not provided to the Subcommittee and all parties prior to the hearing, sufficient copies of the document must be brought to the hearing for the Subcommittee and all other parties.

O. If a party is not satisfied with the decision of the Peer Review Subcommittee, he or she can appeal that decision to the full membership of the RPC or to the 700 MHz National Planning Oversight Committee or other body designated to handle matters of this nature. As a last resort, the dispute will be forwarded to the Federal Communications Commission for final resolution.

2.5 Dispute Resolution – Inter-Regional

In the event that a dispute arises between Region 53 and an adjacent region or regions, regarding channel allotments or assignments that cannot be resolved within 60 days, the parties to the dispute will request a hearing by the appropriate subcommittee of the National Regional Planning Council (NRPC), or any subsequent oversight organization. See Appendix G for a sample Inter-Regional Dispute Resolution Agreement, and Attachment 1 for copies of the signed agreements between Region 53 and adjacent Regions 49, 50, and 51.

2.6 Plan Amendments

Region 53 maintains planning documents for download and review at www.NIIX.org. To access the Plan and Appendices go to: *Your Communities*, then click on *Texas Region 53 700 MHz Planning Committee*. All current plan documents, meeting announcements, meeting minutes, and other pertinent information are maintained at this website.

It is anticipated that two types of plan modifications will be made in the future: administrative changes that do not alter spectrum allotments in the plan, and changes that do alter the spectrum allotments in the plan. Each of these types of changes will be handled by a different process.

A. From time to time the Committee may need to make changes to the plan that are purely administrative in nature, and that do not alter any spectrum allotments. Examples of such changes include changes in officer positions, changes in meeting schedules, changes in application processing procedures, etc.

Proposed administrative changes to the plan will be presented to the Committee at a properly scheduled meeting, and adopted at that meeting, if possible. Upon a vote by the majority of members in attendance at that meeting, consideration of the change may be held over for subsequent meetings to allow further information to be collected or further debate to occur. Once the proposed change is adopted by the Committee, the amended plan will be filed with the FCC for formal ratification. Copies will also be provided to the chairmen of the adjoining regions so they are aware of the administrative changes.

B. From time to time the Committee may need to make changes to the plan that alters the allotment of channels. Examples of such changes include situations in which one county-like area has fully exhausted their initial allotment and needs additional channels to meet their demonstrated need, while other county-like areas have demonstrated no interest in planning or funding the use of their allotted channels.

Proposed changes of this nature will be presented to the Committee at a properly scheduled meeting, and will be considered at that meeting and one subsequent meeting. Once the proposed change is approved by the Committee, notification of the proposed change will be sent to the chairmen of the adjacent regions for their concurrence. The adjoining regions will

be requested to provide their comments or consent within 45 calendar days of their receipt of the notification.

Once adjacent regions' comments or consent is received, or the 45 day period has expired, the Committee will again consider and vote on the proposed change at a properly scheduled meeting. Upon adoption of the change by the Committee, the amended plan will be submitted to the FCC for ratification.

3. Regional Plan Administration

3.1 Allotment of Narrowband "General Use" Channels

This regional plan uses the 2008 general use channel sort as shown on the CAPRAD database for narrowband general use channels. The CAPRAD sort and allotment process used many factors, including population densities and geographic terrain features, to achieve nationwide allotments that are efficient, while minimizing co-channel and adjacent channel interference both within and between neighboring regions. Region 53 utilizes the CAPRAD database and will maintain the regional plan and current frequency allotment/assignment information on the database.

It must be emphasized that the initial allotments produced by the CAPRAD sort are starting points for frequency assignments in all regions. The major purpose of the CAPRAD sort was to establish non-interfering allotments along all regional borders, thus greatly simplifying the initial coordination between all adjoining regions. Indeed, the technical proposal paper for the initial 2003 CAPRAD sort stated, "Pre-allotments may be altered without the need for inter-regional coordination as long as adjacent regions are not impacted. Changes that impact adjacent region(s) can only be made with inter-regional concurrence(s)."

The Region 53 RPC has both the ability to initiate and accept recommendations, and the authority to change the frequency allotments.

If at any time a system is assigned channels within Region 53 and the system cannot be developed within the agreed terms, the channels will be returned to the original county pool allotment and again be available to other agencies in the region.

Allotments to all counties within Region 53 have been made utilizing the national CAPRAD database sort. Channel allotments will be made in 25 KHz groups to allow for various digital technologies to be implemented. Appendix F reflects the results of these choices.

Agencies will be expected to maintain 12.5 KHz equivalency when developing systems and will be required to utilize both 12.5 KHz portions of the 25 KHz block, or surrender licenses to prevent interference to primary use channels. To the maximum extent possible, and in order to promote spectrum efficiency, Region 53 will ensure that systems allocated the 25

KHz channel blocks will utilize the entire channel, and not “orphan” any portions of an assigned channel (see Section 3.5.)

It is expected that all agencies requesting spectrum during the initial filing window (see Section 3.6.A) will be assigned channels if plan requirements and interference standards are met.

This plan does not limit an agency from initially implementing (if it conforms to FCC rules) a technology that yields less than one voice channel per 12.5 KHz channel, or aggregating narrowband data into 25 KHz blocks. Migration and an eventual mandate to 6.25 KHz voice/data technology should be anticipated by applicants.

3.2 “Limited Area” Operations

In the implementation of 700 MHz public safety systems throughout Region 53, there may be opportunities for increased channel reuse by developing radio systems for “limited area” type operations. Examples of those who may be able to capitalize on this opportunity include hospitals, stadiums, malls, places of public gathering, universities, and ports. In many instances, these facilities require a smaller or more specific geographical coverage area than was assumed in the channel packing plan, and may be able to reuse channels more efficiently. These “limited area” type systems also, in many cases, require in-building or confined space/ tunnel radio coverage or communications along a linear pathway, such as a right of way.

There are no channels allocated within the 700 MHz band plan for “limited area” operation. The region encourages applicants to use general pool channels assigned to each geographic county area for “limited area” operations so that channels can be reused within the same county boundary and reused for out-of-pool assignments.

The use of channels for “limited area” operations will allow co-channel spacing significantly less than typical co-channel assignments within the CAPRAD database. Any requests for channels which will operate in a “limited area” must meet the interference criteria for general pool channels defined in Section 7. Out-of-pool assignments for “limited area” use channels will be made on a case by case basis at the discretion of the RPC.

Channels assigned to this type operation can lead to effective system development, along with increased spectral efficiency, if the service contour and interference protection needs of the system are carefully considered in system planning. System parameters must be used that are appropriate to the service area.

Reduced external antenna height, along with reduced ERP, directional antennas, distributed antenna systems, and radiating “leaky coax,” are examples of tools that should be utilized in the development of these type systems.

Region 53 will ensure that these types of systems will not interfere with co-channel or adjacent channel users within the region or its adjacent regions. The RPC will require

engineering studies from the applicant that indicate no harmful interference will be introduced to any co-channel or adjacent channel user prior to application approval. The committee is the final authority on parameters associated with “limited area” type operations.

3.3 “Give Back” Channels

When applying for new 700 MHz channels, the RPC expects applicants to relinquish an amount of currently used spectrum (“give back channels”) and make that spectrum again available for use. This currently licensed spectrum may be in any public safety band. This requirement does not apply to agencies with existing 800 MHz systems that are requesting 700 MHz channels for system expansion. The number of channels an applicant may retain after this “give back” may include those needed for interoperable communications with surrounding jurisdictions. If an agency considers the number of channels relinquished by the applicant to be insufficient, their objection will be handled in the same manner as an assignment dispute (see section 3.7).

It is anticipated each agency will have a certain migration period during which both their existing frequencies and their 700 MHz assignments will be utilized. The RPC will review and approve an appropriate “give back” timetable that will allow a specified time period for new system optimization. This will make an applicant’s legacy system available to the applicant for a limited time period during migration, implementation, and optimization of the new system.

When both the applicant and the RPC agree upon the number of “give back” channels and a date is established for implementation of the new system, the applicant will provide the committee with a ‘giveback agreement’ letter containing all pertinent give back channel information. This will enable other agencies in the area to benefit from, license, and implement the applicant’s “give back” channels.

Frequency “give back” requirements also apply for regional systems where system participants maintain discrete licenses for their own operations. In the case of a partnership system, all participating political subdivisions or agencies are required to participate in the “give back” plan. Should one political subdivision or agency act as host of a regional system, both the host agency and the constituent agencies must participate in the “give back” plan. Region 53 may utilize any mechanism needed to retain “give back” frequencies within the region and allow for maximum spectral use.

Frequencies used for non-voice critical infrastructure support functions (such as Supervisory Control and Data Acquisition systems) as well as frequencies that are used for interoperability with other regional, state, or national agencies that rely on other frequency bands for emergency operations (such as, but not limited to, the Texas Statewide Interoperability Channel Plan channels), may be exempted by the committee as candidates for “give back”. Frequencies used by an applicant for such purposes, as well as the specific

use and a network/ system diagram, must be shown in the application documentation package to enable the RPC to consider exemptions.

Operational Fixed, or any frequency or radio sub-system used for fixed mode of operations to support the operation of another radio system shall be considered part of the “give back” along with the fundamental system being returned. They comprise an inclusive unit.

Microwave frequencies, or systems licensed within the “Microwave Public Safety Pool” (radio service Code “MW”) shall be exempt from this requirement.

In cases of hardship or untoward implementation, the RPC will consider, on a case-by-case basis, extensions of the “give back” timetable. Should there be a protest the dispute resolution process in Section 2.4 of this document shall apply.

3.4 Low Power Channels

The FCC in the 700 MHz band plan set aside channels 1 - 8 paired with 961 – 968, and channels 949 –958 paired with 1909 – 1918, for on-scene incident response purposes using low power mobiles and portables subject to Commission-approved regional plans. Channels 9 –12 paired with 969 – 972, and channels 959 – 960 paired with 1919 – 1920, are licensed nationwide for itinerant operation. Transmitter power and/or ERP on any of these channels must not exceed the maximum allowed by the FCC for these channels (two watts ERP). All of these channels may be operated in either the narrowband analog or the digital mode.

This plan does not limit use to analog only operations, and channels are intended for use in a wide variety of applications that may require digital modulation types as well.

On scene temporary base and mobile relay stations are allowed (to the extent FCC rules allow; 2 watts ERP) with antenna height limit of 6.1 meters (20 feet) above ground level (AGL). However, users are encouraged to operate in simplex mode with the least amount of power to reliably maintain communications whenever possible.

In its dialog leading up to the rules allocating the twenty-four low power 6.25 KHz frequency pairs (of which eighteen fall under RPC jurisdiction), the FCC suggested that there is a potential for multiple low power applications. They stated that, absent a compelling showing, a shared approach should be employed rather than making exclusive assignments for each specific application, since low power operations can co-exist, in relatively close proximity, on the same frequencies, with minimal potential for interference due to the FCC power and/or ERP restriction.

Although advantages exist in not making assignments, the reverse is also true. If, for example, firefighters operate on a specific channel or set of channels in one area, there is some logic in replicating that usage throughout the region for firefighter equipment. If there are no assignments, such a replication is unlikely. In seeking the middle ground, with positive attributes both for and against assignments, we adopt the following assignments

associated with the eighteen (18) low power channels for which the Region 53 RPC has responsibility:

- Generic – Base channel #'s 1-4 and 949-952 are designated as generic low power channels for licensing and use by all disciplines of public safety agencies operating in Region 53, and the complementary mobile channels #'s 961-964 and 1909-1912 are set aside as generic low power channels for licensing and use by all disciplines of public safety agencies operating in Region 53.
- Fire/ EMS – Base channel #'s 5-8 are designated as Fire/Emergency Medical low power channels for licensing and primary use by the Fire/Emergency Medical disciplines, and the complementary mobile channel #'s 965-968 are set aside as Fire/Emergency Medical low power channels also for licensing and primary use by the Fire/Emergency Medical disciplines.
- Law – Base channel #'s 953-956 are designated as Law Enforcement low power channels for licensing and primary use by the Law Enforcement discipline, and the complementary mobile channel #'s 1913-1916 are set aside as Law Enforcement low power channels also for licensing and primary use by the Law Enforcement discipline.
- Multidisciplinary Joint Public Safety Operations – Base channel #'s 957-958 are designated as Multidisciplinary Joint Public Safety Operations low power channels for licensing and the complementary mobile channel #'s 1917-1918 are also designated as Multidisciplinary Joint Public Safety Operations low power channels for use by political subdivisions and public safety agencies operating under a unified command at a common incident for the express mission of safety of life, property or environment.

Simplex operations may occur on either the base or mobile channels. Users are cautioned to coordinate on-scene use among all agencies involved, particularly when the use of repeater modes is possible at, or in proximity to, a common incident. Users should license multiple channels and be prepared to operate on alternate channels in any given operational area.

The Region 53 RPC urges all 700 MHz users to have the capability to access all of the FCC approved low power and interoperability channels in both repeater and simplex modes. Under no circumstances may a user claim a low power channel as exclusively theirs. The 700 MHz interoperability channels are administered by the TSIEC.

3.5 “Orphaned Channels”

The Region 53 area has an allotted channel bandwidth of 25 KHz. These 25 KHz allotments have been characterized as “technology neutral” and flexible enough to accommodate diverse technologies utilizing multiple bandwidths. If agencies choose a technology that requires less than 25 KHz channel bandwidth for their system, there is the potential for residual,

“orphaned channels” of 6.25 KHz or 12.5 KHz bandwidth immediately adjacent to the assigned channel within a given county area.

An “orphan channel” may be used at another location and/or by another licensee within the county area where it was originally assigned, if it meets co-channel and adjacent channel interference criteria. Based on adjacent channel interference contour requirements and the potential for overlapping service areas, it is recognized that reuse of “orphan channels” within the same county boundary is not likely.

Based on the progression of technology, 12.5 KHz channel based P25 technologies are the primary trunking solution available to public safety agencies. With the implementation of these systems, it is expected that a large number of “orphan channels” will be created. To make more efficient use of spectrum and simplify the re-allocation of “orphan channels”, the Region has divided all 25 KHz channel assignments into consecutive 12.5 KHz “A” and “B” blocks. The “A” block is the lower of the two frequencies, and the “B” block is the higher of the two frequencies. The “A” block is prioritized for primary system assignments within the assigned geographic area, and the “b” block is prioritized for “orphan” assignments to be assigned outside of the CAPRAD assigned geographic area on a case by case basis at the discretion of the RPC.

When it is in the best interest of public safety communications and efficient spectrum use within the region, the RPC shall have the authority to move these “orphan channel” allotments, and/or co-channel or adjacent channel allotments affected by the movement of “orphan channels,” to other areas throughout the region, as deemed necessary, to maintain spectrum efficiency and/or minimize co-channel or adjacent channel interference.

With much of Region 53 adjacent to the Mexican Border, a substantial number of 700 MHz channels assigned within the CAPRAD database will be unavailable to affected applicants. The RPC recognizes the need to be flexible with out-of-pool assignments in order to meet the needs of all potential applicants within the region.

If, to accommodate an applicant’s request for channel assignments, it is necessary to move a full 25 KHz channel allotment, or a portion thereof, to a location outside of the county area in which it was originally allotted, the requesting entity will determine if the request meets interference protection guidelines consistent with the Region 53 700MHz Plan, and submit the results in the application package to the region. The Region will then evaluate the package and determine if the channel(s) should be moved to accommodate the request.

Request for channels outside of an applicant’s assigned general pool allocation must demonstrate that insufficient general pool channels exist to meet the applicant’s loading requirements based on the loading criteria established in Section 7.3.

Out-of-pool requests should first be prioritized for unassigned channels. Unassigned channels are those frequencies that are not allocated to any geographic boundary in those areas surrounding a proposed system. If no-out-of-pool channels are available or if all out-of-pool channels have been assigned for a potential applicant, the applicant may request access to “orphan channels” from other county allocations within the region. If insufficient “orphan channels” are available to meet an applicant’s request, then the applicant may

request access to unused primary channels from neighboring county allocations. These requests will be handled with a high level of scrutiny by the RPC as the re-assignment of primary pool channels has the potential to limit access to spectrum from potential applicants in the target county border.

Applicants are cautioned that due diligence must be made for all out-of-pool channel assignments. General pool assignments in the CAPRAD database have been pre-coordinated to limit co-channel and adjacent-channel interference. These criteria do not apply when a channel has been moved outside of its original county assignment. It is the responsibility of the applicant to identify and protect co-channel and adjacent-channel licensees and geographic CAPRAD allocations.

If the movement of a full or partial channel allotment is deemed in the best interest of the public safety community, frequency plan changes will be documented in the CAPRAD database. If the movement of the full or partial channel is relocated less than 10 miles outside the originally-allocated county boundaries, the frequency will remain under the originally assigned county area and the notes field will be adjusted to reflect the assignment of the frequency. If the movement of the full or partial channel is relocated more than 10 miles outside the originally-allocated county boundaries, the channel will be re-allocated to the new county area and the notes field will be adjusted to indicate the originally assigned county area.

Plan amendments to reflect updated out-of-pool channel assignments will be made when deemed appropriate by the RPC, but not more than two years following any out-of-pool frequency allocations.

As with in-pool channel assignments, out-of-pool applications for radio sites within proximity to neighboring 700 MHz regions are subject to approval from the Regional Planning Committees of those regions. Out-of-pool requests are subject to the interference criteria established within this plan, and must protect frequency allocations within each neighboring region.

3.6 Procedure for Requesting Channel Assignments

A diagram of the Region 53 - 700 MHz application process has been included in this plan as Appendix H.

Upon FCC approval of this plan, the chairman will announce the opening of an initial filing window for a 30 day period, and that specific channels have been allotted to each county area in the region. All available methods will be used to notify public safety entities of the filing window and channel availability in the region (see Section 2.2). Subsequent filing windows will be established at six (6) month intervals with each open for 30 days.

Following the close of the first filing window, thirteen (13) successive filing windows will occur at six month intervals. In addition to processing any applications received during the

fourteenth filing windows, the Committee will also then make a decision on whether to add additional filing windows, or to allow the filing window approach to automatically sunset.

If no action is taken by the Committee to add additional filing windows, subsequent applications will be received and processed on a first-come, first served basis. Channel assignments will not be constrained to the allocations of this plan, but, instead, will be made opportunistically to allow for the best possible spectrum utilization while meeting the needs of active applicants. This could result in spectrum allotted to some county-like areas, but has sat fallow for seven years, being applied for and made productive by applicants who are making active use of the 700 MHz spectrum.

All requests for assignments of channels will be considered on a first come, first served basis. Multiple requests for the same channels arriving in the same filing window, and requests for more channels than are allotted to the applicant's area, will be processed in accordance with the priority matrix given in Section 4 of this plan. Region 53 supports the National Coordination Committee Pre-Assignment Rules and Recommendations listed in Appendix E, and will use these guidelines to determine if an application submitted to the RPC meets regional planning and interference protection standards. It is recommended that applicants familiarize themselves with these standards prior to submitting their applications. In general, and unless otherwise noted, the Region 53 RPC will adhere to the published National Coordination Committee Guidelines for 700 MHz Public Safety Regional Planning Committees.

When applying for new 700 MHz channels, the RPC expects applicants to work with neighboring agencies to promote and continue the establishment of interoperability within their communities, to allow for equitable distribution of the frequency allotments, and to promote efficient frequency use. The Region 53 RPC expects applicants to recognize that moving to the 700 MHz band may create a degree of isolation between themselves and neighboring agencies, and expects applicants to maintain or improve interoperability with their neighbors.

To request an assignment of channels from Region 53, a full application package must be submitted through the CAPRAD database at <http://caprad.org>. The application package must include:

1. FCC Form 601 (or its equivalent form as required by the FCC) with all appropriate schedules and attachments;
2. A description of the proposed system;
3. A justification for the additional spectrum;
4. A proposed system loading schedule;
5. A proposed system implementation schedule;
6. An interference prediction map using the current version of TIA/EIA TSB 88 guidelines;
7. Documents indicating agency-funding commitments sufficient to fund the development of the proposed system(s);

8. A list of all frequencies that will continue to be used by the applicant, and their specific uses;
9. A list of “give-back” channels, if applicable;
10. A list of all Region 53 entities with co-channel or adjacent channel assignments, and a statement indicating the date and manner by which each of these entities was notified of this application; and
11. A statement acknowledging the FCC’s deadline of 12/31/2016 for operating at 6.25 KHz channel spacing, or its equivalent, as well as a signed commitment to meet the deadline and a high level plan of how the deadline will be met.

Exceptions in accepting applications will be made by the chairman if applicants have demonstrated a need for 700 MHz channels and cannot access the CAPRAD database.

The secretary will cause all then-current RPC members to be notified by e-mail that an application is available for review, and notice of the application will also be posted on the Region’s web site and list server. Requests will be considered and approved, providing that harmful interference is not caused to existing users. The technical parameters defining the limits of any possible interference are given in section 7.1 of this plan. Service area and service contours should also meet the values designated in section 7.1 of this plan.

Absent a protest within 60 calendar days of the secretary’s e-mail notification, the application will be approved, and (if applicable), upon receipt of a “giveback agreement” letter (see Section 3.3), the chairman or his delegate will submit it, through the CAPRAD database, to the applicant’s preferred FCC certified frequency coordinator for processing. This process meets the requirements of FCC Rule 90.176 (c). The CAPRAD database will reflect the approved application and place the channels for the proposed system in “pre-license” status.

3.7 Mexico Border Issues

Region 53 shares a border with Mexico. Any proposed 700 MHz radio site and corresponding mobile service area within 110 km (75 miles) of the Mexican border is subject to the border sharing agreement between the United States and Mexico. The Counties of Val Verde, Kinney, Maverick, Webb, Zapata, Starr, Hidalgo, Cameron, Edwards, Real Uvalde, Zavala, Frio, Dimmit, La Salle, McMullen, Duval, Jim Hogg, Brooks, Kenedy, and Willacy are impacted by border spectrum agreements.

The border agreement defines specific criteria that applicants within the 110 km border region must adhere to. Spectrum within these areas is divided into U. S. primary and Mexico primary channels. Specific criteria for the licensing of U.S. primary and Mexico primary channels is provided in the border sharing agreement, which is included in Appendix J.

It is not the responsibility of the RPC to enforce the border sharing agreement. The committee will evaluate all applications based upon the criteria set forth within the 700 MHz

plan. Enforcement of the border sharing agreement will be handled directly by the FCC. This evaluation will take place following the submission of 700 MHz application to the FCC from the frequency coordinator.

Applicants are strongly encouraged to thoroughly review the border sharing agreement. Radio systems should be designed to meet both the criteria of the Region 53 700 MHz Plan and the border sharing agreement to assure proposed systems can be licensed. The RPC is not responsible for applications which are returned or dismissed by the FCC because of technical parameters relating to the border sharing agreement. It is the responsibility of the applicant to provide all necessary showings to the FCC to demonstrate adherence to the border sharing agreement. Showings to demonstrate compliance with the border sharing agreement should be completed before applications are submitted to the RPC to avoid lengthy delays if frequencies selected by the applicant are ultimately not licensable because of conflicts with the border sharing agreement.

As of November 2011, the current border sharing agreement reflects the “old” 700 MHz band plan which includes 50 kHz wideband allocations. A new border sharing agreement is currently being developed between the United States and Mexico to reflect the current 700 MHz band plan.

The frequencies 769 to 771.5 MHz (and corresponding mobile 799 to 801.5 MHz) overlap the U.S. primary pool in both the old and new band plans. These channels may be assigned as U.S. primary spectrum consistent with the criteria established in the border sharing agreement immediately. Additional U.S. primary spectrum will be defined following the execution of an updated border sharing agreement.

Because 700 MHz assignments are restricted in border areas which occupy much of Region 53, the RPC recognizes the need to be flexible with frequency assignments so that the needs of all potential applicants can be met. Criteria established for the re-assignment of channels in frequency limited areas is provided in Section 3.5.

3.8 Assignment Disputes

An agency may protest a proposed system within 60 calendar days following the secretary’s e-mail notification. Protests will only be considered if the objecting agency or the chairman can show that harmful interference is likely based on the information submitted in the application.

If an agency with licensed, or pre-licensed/region assigned, co-channel or adjacent channel assignments objects to a proposed assignment due to concerns about potential interference, the objecting agency may request field tests be done to confirm or refute the interference potential. The completion of these field tests will be required for Region 53 application approval. Service and interference contours of the proposed system(s) should meet values designated in Section 7.1 of this document. Any costs associated with field tests or any other requirements for obtaining regional approval are the responsibility of the agency submitting

the application to Region 53. The parties involved must resolve the assignment dispute and notify the chairman within 120 calendar days. If the parties involved cannot resolve the assignment dispute within that time frame, the dispute will be handled by the Dispute Resolution process described in section 2.4. If approved, the application will be submitted through the CAPRAD database to the applicant’s chosen FCC-certified frequency coordinator for processing.

Any application that has been modified in any way that would change the systems’ coverage or interference contours must be resubmitted in the same manner as the original application, and new 60 day e-mail notifications will be made.

3.9 NPSPAC Channels

If a 700 MHz applicant has not yet fully exhausted its 821 MHz (806 MHz after Rebanding) allotments, the 700 MHz RPC should encourage the applicant, where technically appropriate, to fully utilize their 821 MHz allotments first. The purpose for this is to ensure maximum utilization of all allotted spectrum with similar technical characteristics.

4. Priority Matrix

In the event that several requests for narrowband channel assignments conflict and cannot all be accommodated, the following scoring matrix will be used to determine priority for assignment. This matrix will only be used if two or more requests are received in the same filing window for the same channels. Otherwise, the first come first served procedure of Section 3.6.B will be used.

Priority is given to users fundamentally involved with the protection of life and property (15 points).

Disciplines Supporting Protection of Life and Property	Allotted Points	Point Tally
Law Enforcement	4	
Fire	4	
Emergency Medical Services (EMS)	4	
Public Works or Utilities	1	
Hospitals or Corrections	1	
Local Government or Emergency Management	1	
Total (Out of 15)		

Priority is given to multi-agency systems that promote multi-agency, inter-discipline interoperable communications. These systems can be either a group of separate departments within a large agency or groups of agencies operating together under a large blanket agency, or a combination of both (25 points).

Multi-Agency Inter-Discipline Communications	Allotted Points	Point Tally
Number of Agencies (1 point per agency up to a max of 15)	1-15	
System Supports Police, Fire, and EMS	10	
System Supports Two Public Safety Disciplines (Police & Fire, Police & EMS, or Fire & EMS)	6	
System Supports One Public Safety Discipline with Gateway Connections to Other Disciplines	3	
Total (Out of 25)		

Priority is given to systems that achieve spectrum efficiency through high levels of channel loading (25 points).

System Loading	Allotted Points	Point Tally
250+ subscriber radios per channel	25	
200 – 250 subscriber radios per channel	20	
150 – 200 subscriber radios per channel	15	
100 – 150 subscriber radios per channel	10	
75 – 100 subscriber radios per channel	5	
Total (Out of 25)		

Documentation of proposed funding and proof of financial commitment, accompanied by a Request for Proposal outlining the design of the proposed system and detailing the development of the requested channels (25 points).

Project Commitment	Allotted Points	Point Tally
Applicant Under Contract with Vendor	25	
RFP Developed and Released	20	
RFP Currently Being Developed	15	
Proof of Financial Commitment Provided	10	
Total (Out of 25)		

The percentage of the applicant’s existing frequencies that will be available for re-use, e.g. give-back frequencies (10 points) .

Frequency Give-backs	Allotted Points	Point Tally
85 – 100% of frequencies returned	10	
70 – 85 % of frequencies returned	8	
55 – 70 % of frequencies returned	6	
40 – 55 % of frequencies returned	4	
25 – 40 % of frequencies returned	2	
Total (Out of 10)		

In the case of a tie, priority is given to the first application filed within a filing window, as determined by the CAPRAD posting date, postmark, or their equivalent (2 points).

Tie-Breaker	Allotted Points	Point Tally
Scoring of Previous Categories do not Result in a Tie	0	
First Application Filed Within Filing Window	2	
Total (Out of 2)		

The total score for each application will be tallied based upon the sub-total from each of the above listed categories.

Application Total Score	Allotted Points	Point Tally
Disciplines Supporting Protection of Life and Property	0-15	
Multi-Agency Inter-Discipline Communications	0-25	
System Loading	0-25	
Project Commitment	0-25	
Frequency Give-backs	0-10	
Tie-Breaker	0-2	
Total (Out of 100 + 2)		

This scoring process will be performed by the Peer Review / Dispute Resolution Subcommittee (see section 2.4) using the above criteria.

5. Process for handling unformed adjacent Regions

All three of the regions adjacent to Region 53 have formed their 700 MHz and/or 800 MHz committees and have elected their chairmen. Therefore, there is no need for a process for handling unformed adjacent regions.

6. Coordination with Adjacent Regions

The Regions adjacent to Region 53 are:

- Region 49 – Central Texas, Austin area
- Region 50 – West Texas, El Paso area
- Region 51 – South east Texas, Houston area

Region 53 has coordinated channel allotments and received concurrence from all its bordering regions by providing copies of this plan (including channel allotments) to each adjacent region using the CAPRAD database and e-mail, and by mailing hard copies of the plan to all adjacent regions' chairmen.

Region 53's plan will also be available for viewing by all interested parties via the CAPRAD 700 MHz database. The CAPRAD pre-coordination database can be used to determine which channels are available that will not interfere with Region 53 allotments or systems. The CAPRAD database and its associated packing plan provide minimum channel allotments for all of Region 53's bordering regions. This method was recommended by the NCC Implementation Subcommittee as a way to assure that adjacent regions, which did not enter the regional planning process immediately, would not find all frequencies already allotted or assigned at their borders.

Therefore, adjacent Regions 49, 50, and 51, should all be able to satisfy voice and narrowband data requests along their border areas with Region 53. However, if an adjacent region has difficulties satisfying intra-regional requests due to channel allocation within Region 53, this committee pledges to work with that adjacent region to resolve any issues that might hinder interoperability or reduce any benefit to public safety communications.

7. System Design/Efficiency Requirements

7.1 Interference Protection

The channel allotments are based on the assumption that systems will be engineered on an interference-limited basis, not a noise floor-limited basis. Agencies are expected to design their systems for maximum signal levels within their service area and minimum levels in the service areas of other co-channel users. A jurisdiction's service contour is normally the geographical boundaries of the agency served (its service area) plus an area three to five miles beyond. The three to five mile buffer outside the service area is intended to permit agencies to design systems which provide in-building coverage levels at the edge of the service area.

Systems should be designed for minimum signal strength of 50 dBu in the system's service contour, while minimizing signal power out of that area. TIA/EIA TSB88-A (or latest version) will be used to determine harmful interference, assuming 50 dBu, or greater, signal in all systems' service contours. This will likely require patterned antennas and extra sites compared to a design that assumes noise limited coverage.

Region 53 adopts the Okumura Hata Davidson propagation model as the standard for calculating interference protection. This model was selected because it produces a closed contour which is more conducive for contour based interference calculations and because the model is accurately reproduced in most propagation software packages.

To maximize spectrum utilization, prudent engineering practices and receivers of the highest quality must be used in systems. Given a choice of radios in a given technology family, agencies should choose the units with the best specifications. This plan will not protect agencies from interference if their systems are under-constructed (i.e., portions of the desired service area have signal strength less than 40 dBu), or utilize low quality receivers.

Region 53 adopts the interference protection recommendations listed in Appendix K of the Regional Planning Committee Guidelines published by the National Coordination Committee (NCC), and included in this plan as Appendix E.

7.1.1 Propagation Model Calibration

To account for variations that may exist between different software packages, all applicants are required to demonstrate calibration of their respective Okumura Hata Davidson propagation models. The calibration test study has been provided in Appendix L.

Applicants must submit a test study which matches the calibration map provided in Appendix L. The parameters used to calculate the study are included within the appendix. Applicants may artificially adjust their respective software packages by adjusting the study confidence margin or other factors in order to more closely replicate the calibration study.

The test study provided by the applicant must either match the calibration study or have contours which extend beyond the test study. Any application which includes a test study with contours smaller than the calibration study will not be reviewed until the point that an updated test study and interference maps are provided.

Once the propagation model has been calibrated, applicants should re-use the propagation model settings in order to calculate the responsible radiation, co-channel interference, and adjacent-channel interference studies outlined in the following sections.

7.1.2 Responsible Radiation

Applications are required to demonstrate responsible radiation with proposed system designs in order to limit signal within five miles of the proposed service area. The study must demonstrate that the 50 dBu contour for all proposed locations lies entirely within an area extending five miles from the proposed service area.

Applicants may combine multiple radio sites onto a single responsible radiation study in order to limit the number of total maps. Maps provided must clearly depict the 50 dBu composite contour of all included radio sites, the requested service area, and the five mile boundary outside the requested service area. No point of the 50 dBu contour may extend beyond the five mile boundary.

A sample of an acceptable responsible radiation study has been included in Appendix L: Propagation Model Calibration Maps.

7.1.3 Co-Channel Interference

While the CAPRAD database has been designed to limit the potential for co-channel and adjacent-channel interference, responsible system designs are still necessary to assure interference does not occur between systems.

Applicants are required to demonstrate co-channel interference protection to both existing licensees and CAPRAD assignments.

To calculate interference from a proposed system to an existing licensed system, applicants are required to demonstrate that the 5 dBu contour of the proposed system does not overlap the 40 dBu protected service contour of the existing licensed system. In the event that an existing licensee's area of operation is smaller than the licensee's service contour, the applicant may instead demonstrate that the 5 dBu contour does not overlap the existing licensee's area of operation. Multiple interference contours may be combined onto a single map permitted that the maps clearly define the existing licensees, clearly define each of the frequencies in contention with each existing licensee, and clearly demonstrate that no overlap exists between the 5 dBu interference contour of the applicant and the 40 dBu service contours or area of operation of each existing licensee.

To calculate interference from a proposed system to a CAPRAD assignment, applicants must first identify all counties which have been assigned co-channel allocations for each frequency requested. This information may be obtained from the CAPRAD database. The interference map(s) must clearly depict the counties which have been assigned the same frequencies as those requested by the applicant. The applicant must demonstrate that the 5 dBu composite contour of all proposed radio sites does not overlap any county boundary which has been assigned a co-channel frequency. Radio sites and multiple frequencies may be combined onto a single composite map provided that the co-channel county boundaries for all requested channels are clearly depicted.

Sample co-channel interference maps have been provided in Appendix M: Sample Propagation Maps.

7.1.4 Adjacent-Channel Interference

While the CAPRAD database has been designed to limit the potential for co-channel and adjacent-channel interference, responsible system designs are still necessary to assure interference does not occur between systems. CAPRAD assignments used at radio sites within the originally assigned county border will typically not produce adjacent-channel interference. Adjacent-channel interference is a greater concern when channels are used outside of the primary pool. This includes out-of-pool and orphan channels.

Applicants are required to demonstrate adjacent-channel interference protection to both existing licensees and CAPRAD assignments.

To calculate adjacent-channel interference from a proposed system to an existing licensed system, applicants are required to demonstrate that the 60 dBu composite contour of the proposed system does not overlap the 40 dBu protected service contour of the existing licensed system. In the event that an existing licensee's area of operation is smaller than the licensee's service contour, the applicant may instead demonstrate that the 60 dBu contour does not overlap the existing licensee's area of operation. Multiple interference contours may be combined onto a single map permitted that the maps clearly define the existing licensees, clearly define each of the frequencies in contention with each existing licensee, and clearly demonstrate that no overlap exists between the 60 dBu interference contour of the applicant and the 40 dBu service contours or area of operation of each existing licensee.

To calculate interference from a proposed system to a CAPRAD assignment, applicants must first identify all counties which have been assigned adjacent-channel allocations for each frequency requested. This information may be obtained from the CAPRAD database. The interference map(s) must clearly depict the counties which have been assigned frequencies 6.25 kHz or 12.5 kHz adjacent to those requested by the applicant. The applicant must demonstrate that the 60 dBu composite contour of all proposed radio sites does not overlap any county boundary which has been assigned an adjacent-channel frequency. Radio sites and multiple frequencies may be combined onto a single composite map provided that the adjacent-channel county boundaries for all requested channels are clearly depicted.

Sample adjacent-channel interference maps have been provided in Appendix M: Sample Propagation Maps.

7.2 Spectrum Efficiency Standards

It is the goal of the FCC for radio equipment to use one voice channel per 6.25 KHz of spectrum. Requests for channel assignments in Region 53 must include an acknowledgement of the 12/31/2016 deadline for converting all equipment to 6.25 KHz or 6.25 KHz equivalent technology. Where possible, narrowband 6.25 KHz channels may be aggregated for data use to a maximum bandwidth of 25 KHz. As 6.25 KHz migration continues, "orphaned" 6.25

KHz channels may be re-allotted to maintain consistent grouping and utilization of 25 KHz blocks (see Section 3.5).

Region 53 encourages small agencies to partner with other agencies in multi-agency or regional systems as they promote spectrum efficiency and both small and large agency capacity needs can be met. The FCC recommends “trunking” as the preferred technology for efficient frequency usage per 90.527(a)(6). Loading criteria can also be achieved in multi-agency systems that will allow greater efficiency for all agencies involved than could be achieved individually.

7.3 System Loading Criteria

Efficient use of spectrum requires minimum channel loading standards both for trunked and conventional system architectures. Subscriber loading for conventional systems in the 700 MHz band will be approved on a case-by-case basis.

For the purposes of calculating system loading, a talk-path will be defined as a single 12.5 kHz frequency. The region acknowledges that TDMA technologies are available today which split single frequencies into multiple talk paths. Talk paths will be defined as a single 6.25 kHz frequency for all systems which will be implemented after the FCC 700 MHz narrowbanding deadline. The region reserves the right to re-evaluate loading based upon 6.25 kHz talk paths for past assignments following the 700 MHz narrowbanding deadline if it is determined that insufficient spectrum exists to meet the needs of all applicants.

FCC rules require that systems using 6 or more channels use trunking technology. However, trunking may be used for systems with fewer channels. The following table indicates the minimum subscriber loading criteria within the 5 year slow-growth period for trunked systems in the 700 MHz band:

Subscriber units	Talk Paths (or equivalent)	Subscriber units	Talk Paths (or equivalent)
50-100	2	300-350	7
100-150	3	350-400	8
150-200	4	400-450	9
200-250	5	450-500	10
250-300	6		

Additional channels may be assigned for larger trunked systems at the rate of one additional talk path per 75 subscriber units exceeding 500 units. Applicants requesting additional frequencies to expand an existing trunking system must show a grade of service less than 1 % or demonstrate the need for an expansion in coverage which will necessitate additional channels. Grade of service is defined as the percentage of time that a user on the system experiences a busy signal longer than one second.

Justification for adding frequencies or retaining existing frequencies may be provided by a traffic loading study instead of loading by the count of subscriber units per talk path. It will be the responsibility of the applicant to provide a verifiable study showing sufficient airtime usage from an existing system, Erlang calculations, or loading simulation to merit additional frequencies. Documentation of airtime usage, excluding telephone interconnect air time, during the peak busy hour on three consecutive days will be required to demonstrate system loading of an existing trunked system.

It is also recognized that systems or sites may be licensed in Region 53 which are part of larger regional radio systems which may be networked, or have their master control in another region, and which allow for subscriber roaming throughout multiple regions. Loading for these systems or sites may consider the effects of system wide roaming, and will be determined on a case-by-case basis.

Should a demand for frequencies exist in the region after the supply of assignable frequencies has been exhausted, any system having frequencies assigned under this plan for four years or longer that is not loaded to a least 70 % of subscriber loading may be required to surrender one or more frequencies for reassignment .

7.4 Expansion of Existing 800 MHz Systems

Licenseses of existing 800 MHz systems that wish to expand by using 700 MHz frequencies must meet the requirements of the FCC and both this 700 MHz plan and the Region 53 - 800 MHz Public Safety Radio Communications Plan. If the two Region 53 plans are in conflict, the dispute resolution process outlined in Section 2.4 will be used on a case-by-case basis to determine which plan governs.

7.5 System Implementation

An agency may file a request with the RPC chairman for an extension of time to implement their system. The request should include all details describing why the system has not been implemented, and a new implementation schedule. The request will be processed in the same manner as an application for assignments (see Section 3.6.E), with any dispute handled according to Section 3.7. Extended implementation requests should align with “slow growth” requirements defined by the FCC. Requests for extended implementation may be considered up to a maximum period of 5 years.

8. Interoperability Channels

8.1 Introduction

The ability of agencies to effectively respond to mutual aid requests directly depends on their ability to communicate with each other. Texas is subject to a variety of natural disasters and includes facilities which may be susceptible to man-made disasters or weapons of mass destruction attacks . Mutual aid is required among agencies. This plan supports the communications necessary for effective mutual aid, including, but not limited to, the use of Project 25 Common Air Interface standards and accepted common channel names for interoperability channels.

The addition of new communications systems on the 700 MHz band may increase overall interoperability challenges rather than lessen them. While some new 700 MHz systems may completely replace all legacy systems in some areas, most will probably add to the mix of communications options available in an area.

Therefore, as new 700 MHz systems are planned and deployed, it will be extremely important for their operators to be well informed about other legacy systems in all other bands that are operating in their area, or in areas where they may be called upon to provide mutual aid assistance. Since it is unlikely that the time will come when all public safety communications systems operate in a single frequency band with a single technology, only good system planning and cooperation will enable reasonable levels of interoperability to be sustained.

The most common strategy that has been followed in the past, and that this plan anticipates will be followed in Region 53 700 MHz system deployments, is the concept of new systems incorporating appropriate interoperability into their plans and designs, rather than expecting the legacy systems to figure out how to operate with the new system. New 700 MHz systems not only need to meet the interoperability requirements for that band; they also need to provide mechanisms to interoperate with VHF, UHF, and other users to a level that is appropriate for their circumstances.

The State of Texas administers the 700 MHz interoperability channels via the Texas Statewide Interoperability Executive Committee (TSIEC) under National Coordination Committee's (NCC) guidelines. The TSIEC has published technical and operational standards for use of the interoperability channels, and it is anticipated that the TSIEC will continue to expand and update these standards as necessary. The Region 53 - 700 MHz RPC supports the Texas Statewide Interoperability Executive Committee. If at any time the TSIEC is unable to function in the role of administering the interoperability channels in the 700 MHz band, this committee will assume that role in Region 53, and notify the FCC in writing of the change in administrative duties.

8.2 Tactical Channels

Due to the immediate availability of 700 MHz public safety channels in most areas of South Texas, Region 53 will not set aside additional channels for interoperability within the region. It is anticipated that the sixty-four FCC designated interoperability channels (6.25 KHz) will be sufficient to provide voice and data interoperability in Region 53.

All mobile and portable units operating under this plan and utilizing 700 MHz channels must be programmed with the minimum number of channels required either by NCC guidelines or by the TSIEC, whichever number is greater, both in the repeater and direct mode. Channel displays will be in accordance with the state or national guidelines that have common alphanumeric nomenclature to avoid any misinterpretation of their identity.

8.3 Deployable Systems

Region 53 strongly supports use of deployable systems. Deployable systems are prepackaged systems that can deploy by ground or air to an incident to provide additional coverage and capacity on designated 700 MHz interoperability channels and/or agency specific general use channels. This will minimize the expense of installing extensive fixed infrastructure in all areas while still providing mission critical functionalities. The committee recognizes the difficulty of providing complete coverage in all areas due to financial, demographic and geographical constraints.

Agencies should have conventional deployable systems capable of being operated on any of the FCC designated and NCC/state/local recommended interoperability tactical channels. Those agencies that are part of a multi-agency trunked system and commonly provide mutual aid to each other are encouraged to have deployable systems that operate on the tactical channels designated by the FCC for this use. The TSIEC will develop the operational details for deploying these systems.

8.4 Monitoring of Calling Channels

700 MHz general use channel licensees in Region 53 will be responsible for monitoring interoperable calling channels in the manner prescribed by the TSIEC. Appendix D lists the 700 MHz Interoperability Channels (12.5 kHz) for mobile and portable configuration, the Temporary Calling Channel / Tactical Repeater Configuration, and Interoperability guidelines.

9. Future Planning

The provisions in this plan, including, but not limited to, annual meetings, annual review of channel allotments, procedures for modification of allotments, and procedures for modification of the plan itself, constitute the provisions for future planning in Region 53.

10. Certification of Open Meetings

A certification that all planning committee meetings were open to the public and a description of the Region 53 deliberations of the committee pursuant to adopting this plan can be found in Appendix K. The meeting agendas and minutes can be found in Appendix C. A list of public participants can be found in Appendix B, and Appendix C.