NATIONAL/REGIONAL PLAN TEMPLATE
OUTLINE FOR 764-776/794-806 NATIONAL/REGIONAL PLANS

1. REGIONAL CHAIRPERSON

The Regional Planning Committee shall designate a Chairperson. The plan shall include the chairperson's name, title, address, phone number, agency affiliation, e-mail address and/or any additional contact information.

2. RPC MEMBERSHIP

The Plan shall list all RPC members and include agency affiliation and contact information such as: mailing addresses, phone numbers, email addresses (if available), etc. The officers of the RPC shall be noted, such as Secretary, 1st Vice Chairperson, etc.

3. DESCRIPTION OF THE REGION

This section of the plan shall include the following information:

- Definition of the region and its boundaries, a list of the counties and cities within the boundaries.
- Description of existing interoperability contracts, compacts, mutual aid agreements, etc.[1]
- Description of the effect of the addition of 700 MHz channels and interoperability requirements will affect existing plans.[2]
- Overview of public safety entities that have jurisdiction within or over any or all portions of the region (e.g. state agencies, federal agencies).
- Description of the types of public safety, law enforcement, government, public service, or other entities (federal, county, regional, city, town, etc.) that are included in the region.

4. NOTIFICATION PROCESS

This section shall contain a complete description of the process used by the Regional Planning Committee to notify the eligible entities within the region. This section shall contain at a minimum:

- The dates and publications in which the meetings were announced

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[1] In the 4th R&O in Docket 96-86, the FCC decided that each State would to be responsible for administering the I/O channels and gave a deadline of 12/31/01 for each State to notify the Commission whether it would accept that responsibility. If notification from the state is not received by 12/31/01, the administration of the I/O channels reverts to the RPC on 1/01/02. The NCC recommends that States who choose to administer the 700 MHz I/O channels use the recommendations provided in the Guidelines for 764-776/794-806 Regional Planning Committees, Document IM0020-H-20010322-(P009-H). If the State is administering the I/O channels, the RPC need not include this information. A statement to the effect that the State is administering the I/O channels will suffice. If administration of the I/O channels has reverted to the RPC, this information must be included in the Regional Plan.
[2] Ibid.

- The dates and websites on which the meetings were announced.
- A description of the process by which comments were solicited from all eligible parties
- Copies of all notices, comments and submissions obtained through the process
- A description of the process used to consider the comments submitted by concerned parties,

5. REGIONAL PLAN SUMMARY

This section shall include:

- The guidelines and procedures for operation of the RPC;
- The procedures for requesting channels;
- The procedures for frequency coordination;
- Guidelines and procedures for protection of incumbent TV/DTV stations within the Region or near the Region's border during the DTV transition period.
- Descriptions of the region's applicable interoperability plans and interoperability requirements[3]
- Bylaws
- Spectrum Utilization agreements with other regions
- Description of the pre-coordination allocation method used at the region's borders.
- An overview of the "700 MHz Public Safety Frequency Coordination Database" and application flowchart

6. UTILIZATION OF INTEROPERABILITY CHANNELS[4,5]

[PLEASE NOTE: This section is updated as I/O sub-committee changes verbiage of IO-0062. Current verbiage is per IO-0062D020010118.]

The narrowband voice & data interoperability channels (sixty-four at 6.25 kHz bandwidth) are defined on a nationwide basis. Appendix A shows the designation of these channels as defined by the 700 MHz National Coordination Committee (NCC). Since they are nationwide channels, each channel must have the same usage within each region and across regional borders. They have been sub-divided into different service categories.

The current proposal, adopted by the NCC, is to use the ANSI/TIA 102 Standards (i.e., Project 25 digital protocols) as the Digital Interoperability Standard for the conventional-only mode of operation on the narrowband voice & data interoperability channels. [6]

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[3] Ibid.

[4] Ibid.

[5] The FCC adopted many, but not all, the NCC's recommendations for the I/O channels and incorporated those recommendations into the 700 MHz rules. The FCC encouraged States (or RPCs) to follow the NCC recommendations that were not included in Part 90.

[6] Voice and Data Interoperability standards were decided in the 4th R&O ini 96-86 and can be found in Part 90 of the Code of Federal Regulations (CFR). Voice I/O standard documents are listed in 90.548(a)(i); data I/O standard documents are listed in 90.548(a)(ii).

There are 2 Calling channel sets and 30 Tactical channel sets. Channel Sets are comprised of two 6.25 kHz channels each.

The Tactical channel sets are subdivided into the following recommended categories: [7]

4	for Emergency Medical Services,
4	for Fire Services,
4	for Law Enforcement Services,
2	for Mobile Repeater operation,
2	for Other Public Services, and
12	for General Services.
2	for Data

Calling Channels

Because the 700 MHz band will be initially encumbered by broadcast television, two of the interoperability channels sets are reserved as "Calling Channels".[8] The State (or RPC)[9] must define when and where the two calling channels are to be used. These calling channels, which appear in the Table of Interoperability Channels (Appendix A) as "7CALL A" and "7CALLB"[10] must be monitored, as appropriate, by licensees who employ interoperability infrastructure in the associated channel group .[11] When calling channels are integrated into infrastructure, their coverage must at least match the coverage of the other interoperability channels in the system. In addition to the usual calling channel functions, the calling channels may to be used to notify users when a priority is declared on one or more of the tactical interoperability channels

Tactical Channels

All Interoperability channels, except as described below, shall be used for conventional-only operation. Normally, users will 'call' a dispatch center on one of the "Calling Channels" and be assigned an available tactical channel. Deployable narrowband operations (voice, data, trunking) shall be afforded access to the same pool of channels used for similar fixed infrastructure operations. In the event of conflict between multiple activities, prioritized use shall occur.

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[7] In the 4th R&O, the Commission declined to adopt the NCC's recommended channel designations into the rules. The categories listed above were recommended by the Interoperability Subcommittee (IOSC) . The Implementation Subcommittee supports the IOSC's recommendations.

[8] The 764-776 and 794-806 MHz spectrum was re-allocated from television broadcasting (channels 63, 64, 68, & 69) to Public Safety. Until incumbent broadcasters move out of this spectrum, Public Safety may be blocked from implementing systems. Therefore, two channel groups have been established, 63 paired with 68 and 64 paired with 69. Anticipating that one of these channel groups may become available prior to the other, two Calling Channels were defined, one in each channel group.

[9] See Footnote 1.

[10] The 700 MHz calling channels are listed in 90.531(b)(1)(ii)

[11] In the 4th R&O, the FCC declined to mandate monitoring or other administrative requirements for the I/O channels. Instead, the State (or RPC) is tasked with addressing those issues.

Encryption

Use of encryption is prohibited on Calling channels and permitted on all other interoperability channels. A standardized encryption algorithm for use on the interoperability channels must be TIA/EIA IS AAAAA Project 25 DES encryption protocol. [12]

Deployable Systems

General Public Safety Services Channels labeled 7TAC01 through 7TAC07, 7TAC15 through 7TAC21, or both, shall be made available for "deployable" equipment used during disasters and other emergency events that place a heavy, unplanned burden upon in-place radio systems. States (or Regional Planning Committees)[13] shall consider the need for both "deployable trunked" and "deployable conventional" systems and make those channels available to all entities in their State/region.

Trunking on the Interoperability Channels

Trunking the Interoperability channels on a secondary basis shall be limited to operation on eight specific 12.5 kHz channel sets, divided into two subsets of four 12.5 kHz channels. One subset is defined by 7TAC01 through 7TAC07 and the other by 7TAC15 through 7TAC21.[14]

Any licensee implementing base station operation in a trunking mode on Interoperability Channels shall provide and maintain on a continuous (24 hr x 7 day) basis at its primary dispatch facility the capability to easily remove one or more of these interoperability channels, up to the maximum number of such trunking channels implemented, from trunking operation when a conventional access priority that is equal to or higher than their current priority is implemented.[15]

While it may be desirable for the States (or Regional Planning Committees)[16] to permit trunked radio systems to incorporate one or more of the Interoperability channels into a single trunking system as a means of enhancing the use of the system for interoperability purposes (and by implication allow those channels to be routinely used for normal day-to-day communications), care must also be given to ensure that those channels do not become such an integral part of the trunked system operation that it becomes politically and technically impossible to extract them from the trunked system in the event of an emergency event having higher priority. For this reason, the Interoperability Subcommittee recommends that States (or Regional Planning Committees)[17] limit the number of Interoperability channels that may be integrated into any single trunked system to the following amounts:

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[12] Prohibition of encryption on the calling channels and the encryption protocol to be used on the other I/O channels was determined in the 4th R&O. Information on encryption may be found in 90.553 of the CFR.

[13] See Footnote 1.

[14] Trunking recommendations adopted in the 4th R&O. A list of the channels that may be used for secondary trunking may be found in 90.531(b)(1)(iii)

[15] In the 4th R&O, the FCC stated it was 'appropriate to require such monitoring' but delegated to the States (or RPCs) the task of determining how monitoring would be accomplished.

[16] See Footnote 1.

[17] Ibid.

For systems having 10 or fewer "general use" voice paths allocated, one (1) trunked Interoperability Channel set is permitted. For systems having more than 10 "general use" voice paths allocated, two (2) trunked Interoperability Channel sets are permitted.

States (or Regional Planning Committees)[18] may consider allotting additional Interoperability Channel set(s) for trunked systems having more than 20 "general use" voice paths allocated upon a showing of need and upon a determination that assignment of the Interoperability Channel set(s) will not adversely impact availability of those channels to other trunked and/or conventional radio systems in the area (e.g. a single consolidated trunked system servicing all public safety agencies in an area might satisfy this criterion). The maximum number of Interoperability channel sets for trunked systems permitted for use by an individual licensee is four.[19]

The channels (two 6.25 kHz pairs) in Reserve Spectrum immediately adjacent to the 7TAC channels where secondary trunking is permitted [(21, 22), (101, 102), etc. are available for secondary trunking, but only in conjunction with the adjacent Interoperability 12.5 kHz channel pair in a trunked system[20] and will be administered by the State (or RPC)[21]. If a State (or Regional Planning Committee)[22] elects to permit 25 kHz trunking on interoperability channels, these Reserve Spectrum guard channels would become part of those trunking channels. In making a decision to allow 25 kHz trunking on these interoperability channels, States (or Regional Planning Committees)[23] must consider the impact on the channels adjacent to these 25 kHz trunking channels. Additionally, the State (or RPC)[24] must consider the impact to the ability of these 25 kHz trunking channels to be immediately reverted to 12.5 kHz conventional interoperability use.

Standard Operating Procedures on the Trunked I/O Channels For I/O Situations Above Level 4
The safety and security of life and property determines appropriate interoperable priorities of access and/or reverting from secondary trunked to conventional operation. In the event secondary trunked access conflicts with conventional access for the same priority, conventional access shall take precedence. Access priority for "mission critical"[25] communications is recommended[26] as follows:[27]

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[18] Ibid.

[19] See 90.531(b)(1)(iii).

[20] In the 4th R&O, the FCC adopted this recommendation. See 90.531(b)(7).

[21] See Footnote 1.

[22] Ibid.

[23] Ibid.

[24] Ibid.

[25] Mission critical use shall not include nor imply administrative or non-mission critical applications.

[26] In the 4th R&O the FCC declined to adopt the NCC's recommended priority access procedures. The state (or RPC) should develop priority access procedures and resolve disputes. The Priority Access procedures recommended by the NCC are presented here as a model for use by the States (or RPCs).

[27] These access priorities are taken from the §4.1.21 of the Final Report of the Public Safety Wireless Advisory Committee dated September 11, 1996.

1. Disaster and extreme emergency operations for mutual aid and interagency communications;
2. Emergency or urgent operation involving imminent danger to life or property;
3. Special event control, generally of a preplanned nature (including Task Force operations);
4. Single agency secondary communications.[28]

[Priority 4 is the default priority when no higher priority has been declared.]

For those systems employing I/O channels in the trunked mode, the State (or RPC)[29] must set up interoperability talk groups and priority levels for those talk groups so that it is easy for dispatch to determine whether the trunked I/O conversation in progress has priority over the requested conventional I/O use. States (or RPCs)[30] must also determine whether a wide-area I/O conversation has priority over a local I/O conversation.

Standardized Nomenclature

Standardized nomenclature is recommended nationwide such that all 700 MHz public safety subscriber equipment using an alphanumeric display only be permitted to show the recommended label from the Table in Appendix A when the radio is programmed to operate on the associated 700 MHz channel set. The Table shows the recommended label for equipment operating in the mobile relay (repeater) mode. When operating in direct (simplex) mode, the letter "D" appended to the end of the label is recommended.[31]

Data Only Use of the I/O Channels

Narrowband data-only interoperability operation on the Interoperability channels on a secondary basis shall be limited to two specific 12.5 kHz channel sets. One set is defined by 7DTAC13 and the other by 7DTAC51. [32]

Wideband Data Standards

Within the 12 MHz of spectrum designated for high capacity, wide bandwidth (50 to 150 kHz) channel usage, there are eighteen 50 kHz (or six 150 kHz) channels designated for wideband interoperability use.

[PLEASE NOTE: The Technology Subcommittee has determined that there is no existing wideband standard that could be recommended for interoperability. The Technology Subcommittee has asked the Telecommunications Industry Association (TIA) to develop a wideband data standard. TIA TR-8 subcommittee is currently working on the development of a wideband data standard.]

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[28] This fourth priority would allow shedding traffic long in duration or overloading the non-interoperable system; but is not "two or more different entities" as defined in paragraph 76 of FCC 98-191. Overloading conditions should identify a potential need for expansion of the associated non-interoperable system.

[29] See Footnote 1.

[30] Ibid.

[31] In the 4th R&O, the FCC declined to require labeling nomenclature on radios with alphanumeric labeling. NCC was directed to consider developing an industry standard for display labeling. The NCC's recommendations are offered here as a model for State (or RPC) planning.

[32] See 90.548(a)(ii) for data interoperability standard documents.

State Interoperability Executive Committees [33]

State Interoperability Executive Committees should be formed to administer a State Interoperability Plan in each state or territory. These plans should include, but not be limited to, interoperability operations on the 700 MHz interoperability channels. These committees should include an equal number of representatives each providing regional representation from state, county/parish (where applicable), and local governments, with additional representation from special districts and federal agencies, as appropriate. Such committees may represent all disciplines, in which case emergency medical, fire, forestry, general government, law enforcement, and transportation agencies from each level of government shall be represented equally. Alternatively, Committees may represent a single discipline in which case it is only necessary to have membership from the different levels of government previously described.

The state or states within a region or multiple regions should use the Incident Command System (ICS) as a guideline in developing their regional interoperability plans. (See Appendix N) In the event that the state will not accept this responsibility, the RPC shall develop such plans.

The individual States may hold licenses on interoperability channels for all infrastructure and subscriber units within their state. In the event that a State declines to do so, it may delegate this responsibility to the RPC. [34]

The State (or RPC)[35] would have oversight of the administration and technical parameters of the infrastructure for the interoperability channels within their state (or region)[36].

Recommended templates for a *Memorandum of Understanding for Operating the 700 MHz Interoperability Channels* and a *Sharing Agreement* are attached. The MOU shall be typed on appropriate committee letterhead and the Sharing Agreement on agency letterhead.[37] (See Appendices B&C)

Minimum Channel Quantity

The minimum channel quantity for Calling and tactical channel sets requires 8 I/O channel slots in each subscriber unit. Including Direct (simplex) mode on these channel sets, up to 16 slots in each radio will be programmed for I/O purposes. Backbone issues are deferred to the SIECs and/or RPCs.[38] Subscriber units, which routinely roam through more than one jurisdiction up to nationwide travel will require more than the minimum channel quantity.

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[33] In the 4th R&O, the FCC determined that administration of the I/O channels should be done at the state level. While it supported the concept of SIECs, the Commission did not mandate that they be formed if a state already had a similar structure in place. See 90.525(a)

[34] See 90.525(b)

[35] See Footnote 1.

[36] Ibid.

[37] In the 4th R&O the FCC endorsed but did not require the use of the recommended MOU and Sharing Agreement templates.

[38] See Footnote 1

The "CALL"ing channel sets (7CALLA and 7CALLB) shall be implemented in all voice subscriber units in repeat-mode and direct (simplex) mode. "Direct" mode is permitted in the absence of repeat operation or upon prior dispatch center coordination. If the local CALLing channel set is not known, 7CALLA shall be attempted first, then 7CALLB. Attempts shall be made on the repeater mode first then on the direct (simplex) mode.

A minimum set of "TAC"tical channels shall be implemented in every voice subscriber unit in the direct (simplex) mode. Specific channel sets are shown below (SIECs or RPCs[39] will have the option to exceed this minimum requirement.)

- 7TAC11 & 7TAC49 channel sets (previously known an OTAC33 and 63)
- 7TAC09 & 7TAC47 channel sets (previously known as MTAC23 & 53)
- 7TAC29 & 7TAC59 channel sets (previously known as GTAC31 & 61)

NOTE: Selection of the above TAC channels based on revised Table of Interoperability Channels. Channel labels are compromise between 4th R&O and IO-0062D-20010118.

Voice subscriber units subject to multi-jurisdictional or nationwide roaming should have all I/O voice channels, including direct (simplex) mode, programmed for use.

Direct (Simplex) Mode

In direct (simplex) mode, transmitting and receiving on the output (transmit) side of the repeater pair for subscriber unit-to-subscriber unit communications at the scene does not congest the repeater station with unnecessary traffic. However, should someone need the repeater to communicate with the party who is in "direct" mode, the party would hear the repeated message, switch back to the repeater channel, and join the communications. Therefore, operating in direct (simplex) mode shall only be permitted on the repeater output side of the voice I/O channel sets.

Common Channel Access Parameters

Common channel access parameters will provide uniform I/O communications regardless of jurisdiction, system, manufacturer, etc. Thus, the Calling and Tac channels (all of them) should include a common Network Access Code (NAC) as the national standard. The secondary, trunked I/O channels would be excluded in the trunked mode. However, when reverted to conventional I/O, the common NAC would then apply. This national requirement should apply to base stations and subscriber units. This should apply to fixed or temporary operations. This should apply to tactical, vice, or other mutual aide conventional I/O use.

Common channel access parameters for all voice I/O shall utilize the default values (ANSI/TIA/EIA-102,BAAC-2000, approved April 25, 2000) provided in every radio regardless of manufacturer. Any common channel access parameters not provided shall be programmed accordingly. These parameters include the following:

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[39] Ibid.

P25 Network Access Code - $293 (default value)
P25 Manufacturers ID - $00 (default value)
P25 Designation ID - $FFFFFF (designates everyone)
P25 Talkgroup ID - $0001 (default value)
P25 Message Indicator $000000…0, out to 24 zeros (unencrypted)
P25 Key ID - $0000 (default value)
P25 Algorithm ID - $80 (unencrypted)

Any deviation from $293 will not be permitted unless the SIEC (or the RPC)[40] can demonstrate in Plan amendment through the FCC-approved process that the intent of $293 will be preserved on ALL conventional voice I/O channels – transmit and receive.

7. ADDITIONAL SPECTRUM SET ASIDE FOR INTEROPERABILITY WITHIN THE REGION

An individual region shall have the ability to assign additional spectrum within that region for Interoperability. The spectrum will only be available for use within that Region. The RPC must designate which channels will be used out of the General Use spectrum, and must update the NIJ database. The RPC shall justify the assignment of this additional spectrum and include operational guidelines as well as user criteria with eligibility requirements. A Region requesting additional Interoperability spectrum must get concurrence from adjoining regions and must include a letter of concurrence from the adjoining regions.

8. ALLOCATION OF GENERAL USE SPECTRUM

This section shall contain a list of requirements and/or limitations including spectrum utilization, agreements with adjacent 700 MHz RPCs, slow growth, pre-coordination, re-assignment, recovery, etc See Guidelines, Item 8 for details.

9. AN EXPLANATION OF HOW NEEDS WERE ASSIGNED PRIORITIES IN AREAS WHERE NOT ALL ELIGIBLES COULD RECEIVE LICENSES.

A methodology shall be adopted to evaluate applicants when there is not enough spectrum to satisfy all requests. See guidelines, Item 9 for a suggested matrix.

10. AN EXPLANATION OF HOW ALL THE REGION ELIGIBLES' NEEDS WERE CONSIDERED, AND TO THE EXTENT POSSIBLE, MET.

Define how and where eligibles submit requests and/or applications for frequencies. When and where public review of applications takes place. Documentation of how the Region applied the matrix developed in Item 9, especially to mutually exclusive applications.

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[40] See Footnote 1

11. ADJACENT REGION COORDINATION

The RPC shall describe the process by which their plan was coordinated with adjacent regions. The description shall include the method of contact, letters of understanding, agreements, correspondence, and all pertinent documents. If an adjacent region has not yet formed, the Region must use the pre-planning methods outlined in Item 11 of the Guidelines. If this method is used, the Region will be exempt from adjacent region concurrence until such time as the adjacent region forms and develops its own plan.

12. A DETAILED DESCRIPTION OF HOW THE PLAN PUT SPECTRUM TO THE BEST POSSIBLE USE

The plan shall describe the measures taken to ensure that applicants designed their systems to minimize coverage beyond their borders, e.g., only cover their jurisdictions. Applicants should be required to design their systems to maximize spectrum utilization, e.g., utilize simulcast or spectrum efficient technology. The 700 MHz FCC rules require trunking when using 6 or more channels unless the applicant can demonstrate that conventional use of the channels was at least as efficient as trunking. Multiple users within a given political subdivision should be required to use a common system whenever possible.

13. A DETAILED DESCRIPTION OF THE FUTURE PLANNING PROCEDURES

The plan shall include the future planning process, database maintenance and dispute resolution process selected. See Guidelines #13 for details.

14. A CERTIFICATION BY THE REGIONAL PLANNING CHAIRPERSON THAT ALL PLANNING COMMITTEE MEETINGS, INCLUDING SUBCOMMITTEE OR EXECUTIVE COMMITTEE MEETINGS WERE OPEN TO THE PUBLIC.

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

Signed _____