Interoperability Subcommittee Final Recommendations Regarding SIEC Name, Structure and Expanded Authority; Channel Nomenclature Standardization for All-Band Interoperability; Standardization of Interoperability Restriction Footnotes in FCC Tables of Allocation; Requirement for Statewide All-Band Interoperability Plans; Requirement for Manufacturers to incorporate I/O Channel Names in Programming Software; Requirement for Inclusion of the ANSI/EIA/TIA 902 50 kHz Wideband Data Interoperability Mode in Most Wideband Data Equipment.

The following recommendations are provided in language similar to that which the I/O Subcommittee believes the FCC could use in presenting these proposed Rule change recommendations in a Public Notice, and with associated rules additions, modifications and deletions..

SIEC Name, Structure and Expanded Authority

In the 4th Report and Order on Docket 96-86, the Commission recognized that the states were the appropriate place to *administer* the interoperability channels. We highlight the word administer because there are emerging examples where state governments are using their SIEC to *control* the interoperability channels. Additionally, some states have expanded the role of their SIECs to include other state-level functions such as procurement. Changes and clarifications are being added to existing FCC rules concerning the SIEC's to ensure that their primary role, as envisioned by the NCC, is met. *First, we the name State Interoperability Executive Committee is changed to Statewide Interoperability Executive Committee to be more inclusive of all agencies in the state.* Second, we are highlighting the rules to establish the role of the state within the SIEC as one of administration and coordination, rather than control of the interoperability channels. Finally, we are requiring that SIEC's, or RPC's where no SIEC is formed within a particular state, be inclusive of representatives from all public safety disciplines at all levels of government, should they desire to participate, and that all meetings be open to any public safety representative who desires to attend.

As the Commission provided states with the opportunity to notify the Commission of each state's intent to initiate State Interoperability Executive Committee's at the recommendation of the National Coordination Committee in 1999 in the Third RO&O, some states elected not to develop and promote such a body to be empowered to facilitate the designated 700 MHz interoperability channels within that state.

Of the states that did not notify the Commission of their intent to initiate a SIEC, some had existing committees that the state felt would be appropriate to accept the responsibility of facilitating the 700 MHz implementation and coordination. In addition, other states simply did not respond to the Commissions request for notification of acceptance of the responsibility to form an SIEC, thus allowing this responsibility to default to the Regional Planning Committee(s) in those states.

Since the Commission provided no guidelines for promoting inclusion of local, county/parish, tribal and federal agency participation within SIEC membership, some existing state committees were assigned the SIEC role without an appropriately broad range of public safety agency members. The potential of little or no input to statewide interoperability solutions from the broader public safety community and disciplines throughout a state causes great concern and can potentially yield policies that are not reflective of the concerns and needs of all public safety entities within a state.

As the Commission feels strongly that interoperability must be inclusive of the *entire* public safety community, we are amending the rules to require such inclusion.

RPCs who have assumed the role of the SIEC where no such committee has been designated for that region shall form an SIEC Subcommittee. All SIECs and all RPC SIEC Subcommittees shall examine their membership to ensure that it is representative of all public safety disciplines and all levels of government (local, county/parish, state, tribal and federal.) Within the remainder of this document, the term SIEC shall refer to a formal SIEC or RPC SIEC Subcommittees interchangeably. Requirements delineated herein apply equally to both.

SIEC All Band State Interoperability Plans: development, retention and availability

Years ago, the FCC required in its rules that state level plans be developed for certain inter-service interoperability channels (e.g., 155.475 MHz, the "National Law Enforcement Emergency Channel"). Unfortunately, over the years, neither the individual states nor the Commission, where most of the plans were filed, have maintained most of these "state plans". Even if maintained, there has been no mechanism for nearby or adjacent states to view a "state plan", nor is there a requirement for states to retain an updated, current plan on file for viewing by agencies requiring information on interoperability. For the most part, these plans have not been updated or modified to reflect more recent public safety communications interoperability needs and, as a result, these channels are currently used in a manner that fails to maximize their potential at all levels of government. The current practice of states retaining these plans has proven not to be effective in providing guidelines for the effective use of interoperability resources in communities across the country. A mechanism to retain these plans, such as a repository allowing agencies within a state, neighboring states and federal users to access a current version of the plan, is required. The National Public Safety Telecommunications Council (NPSTC) CAPRAD database is an example of a tool that can retain these plans and could be so designated as such a repository by the Commission.

Thus, the Commission is requiring each state's SIEC to provide to the Commission or its designee an updated version of its State Interoperability Plan every three years. This plan shall provide detailed information on public safety communications interoperability useful to agencies within their state, local agencies in bordering states, and with tribal/federal users regarding all FCC designated interoperability channels. Example templates for such plans are provided by the NCC's Implementation Subcommittee Regional Planning Committee Guidelines.

Adopting NCC Channel Nomenclature and Display Recommendations

In addition, we adopt the recommendations of the National Coordination Committee on issues surrounding standardized channel nomenclature and expansion of the SIECs to include all public safety bands. Current FCC-designated interoperability and intersystem channels suffer from a nationwide lack of cohesiveness and coordination that inhibits the implementation of, and fails to promote, consistent public safety interoperability within communities across the nation and across all FCC-licensed public safety bands.

This issue is consistent with the FLEWUG petition now pending before the Commission recommending centralized interoperability in states and a consistent nationwide implementation of interoperability channels. Parameters established for Part 90 interoperability channels by SIEC's appear to be applicable to NTIA Red Book Interoperability channels that may be available by 2005. The Commission recommends that any use by Part 90 eligibles of these channels pursuant to Federal agency agreements should follow these same interoperability guidelines.

Clearly, a fresh look at all interoperable spectrum as a single, unique public safety resource that can offer tremendous benefits to the first responders community is needed.

Furthermore, during the transition to the Commissions Universal Licensing Service (ULS), records of many specific channel license conditions, (ex. Limitation 19 inter-system sharing) that were in many areas *the building blocks of locally developed unique interoperability conditions* in a given area, were lost. In many cases, the regionally developed and accepted discipline specific qualities of these channels, which were in many cases coordinated by states, were not recognized by neighboring states and led to reduced public safety communications interoperability within the region. This caused interference to first responders using these channels in their community.

An example of ULS not offering the criteria of regional use for certain inter-system sharing channels would be the licensing of a frequency to one discipline, in a community where another discipline of public safety users has a well-established multi-agency interoperable system on the same channel. The standardization of technical parameters for all interoperability/inter-system sharing channels and the Commission's re-emphasis on planning and documentation of channel usage in each region is needed to rectify problems that may arise in the public safety community.

The mandatory development of regional/state plans for all interoperability/inter-system sharing channels by a Statewide Interoperability Executive Committee is crucial to

successful interoperability implementation. These plans will document technical and operational parameters within a state/region for all interoperability channels and the availability of these plans to users in adjacent states and regions is necessary to maintain interoperability. Keeping interoperability parameters (operational and technical) a secret from other public safety agencies benefits no one.

The NCC's Interoperability Subcommittee identified the resolution of these issues as eliminating the major impediments to effective public safety interoperability. Furthermore, these issues are consistent with the FLEWUG petition now pending before the Commission which states that there be must be minimal standardization of interoperability for public safety communications to be effective nationwide.

At it's final meeting on July 16, 2003, the NCC's Interoperability Subcommittee reached consensus that it is desirable to require the inclusion of the ANSI/EIA/TIA 902 50 kHz wideband data interoperability mode in most wideband data equipment. The exception to this requirement is equipment not designed for messaging that incorporates an imbedded wideband data transmitter (for example, video transmitters). However, such equipment would be prohibited from operating on the wideband interoperability channels. The rationale for this recommendation is that, with external modems, use of the modem can change from time to time within an agency depending upon need, and as new applications become available. Public safety agency representatives, including several managers, indicated there is not a great deal of experience with interoperable data, but the trend is clearly in that direction; the DC-area CAPWIN program was cited. The desire was to not hamper such interoperability in the future, with full recognition that this requirement would add some cost to the radio modem.

Summary Recommendations from the NCC Interoperability Subcommittee:

Renaming SIECs to Statewide Interoperability Executive Committee, requiring creation in each state, defining membership and meeting requirements and expanding authority.

The use of mandatory, nationwide all-band interoperable channel nomenclature and associated display characteristics. This finalized list is provided in I/O Subcommittee document IO-0107D-20030716 and is based upon recommendations approved by the NCC Steering Committee in response to recommendations presented in IO-0106A-20021121..

The establishment of FCC-required, all band interoperability plans authored by the SIEC's along with the requirement they be retained online on a database (such as CAPRAD) and updated every three years in PDF form for viewing by agencies within the state, adjacent state public safety users along federal responders.

The Missouri SIEC Template is provided as an example of a template of Minimum Interoperability Guidelines for States to use as a starting template for state All Band Interoperability plans. This document is part of I/O Subcommittee document IO-0109A-20030201.

Standardized operational and technical standards intended to promote seamless interoperability throughout all bands, nationwide were addressed in the letters provided to NCC Chairman Wallman by the I/O subcommittee at its last two meetings. Reference IO-0106A-20021121 and IO-0115A-20030221.

Require the inclusion of the ANSI/EIA/TIA 902 50 kHz wideband data interoperability mode in most wideband data equipment. The exception to this requirement is equipment not designed for messaging that incorporates an imbedded wideband data transmitter (for example, video transmitters). However, such equipment would be prohibited from operating on the wideband interoperability channels.

Action by the Commission

Accordingly, a new Section 90.23 is added at the end of Subpart B to regulate all public safety interoperability channels in all bands, along with a table of interoperability frequencies and their associated limitations pursuant to the attached frequency table (reference NCC IO-0107D-20030716). Footnotes 15, 19, 40, 41, 80, 82, and 83 to Section 90.20(d) [*Public Safety Pool Frequency Table*], and Sections 90.525, 90.531(b)(1) i, ii, iii, and 90.537(b) are incorporated into this new section and these sections are deleted, as well as any other references to interoperability administration and plans. All interoperability frequencies and their associated footnotes from all tables of allocations and rules elsewhere within Subparts B, R and S of Part 90 are incorporated into this new section and deleted from the current rules, except as required for technical requirements. Appropriate changes are made to the Table of Contents for Part 90 to reflect these modifications.

Sec. 90.23 Interoperability channels: Administration, Use, Limitations

(a) The organization within each state responsible for administration of all public safety interoperability channels shall be known as the Statewide Interoperability Executive Committee (SIEC). These committees may be a function of state government, or of the associated 700 MHz Regional Planning Committee should a state decide not to designate such a committee.

(b) The role of state government within an SIEC shall be limited to that of administration and coordination of the SIEC, and participation in democratic decision processes within the SIEC through state agency representatives.

(c) SIECs are responsible for the management of all FCC-regulated public safety Interoperability channels. To ensure proper representation of all public safety agencies, SIEC membership shall be representative of all public safety services at all levels of government (local, county/parish, state, tribal and federal) desiring to participate. Meetings shall be open to any interested public safety representative.

(d) Each SIEC shall develop a plan to coordinate and manage all public safety interoperability channels within its boundaries. Each SIEC plan shall also address coordination of interoperability channels with adjacent SIECs. These plans shall be filed with the Commission or its designated repository and shall be updated at no greater than three year intervals.

(e) States may hold the licenses for Interoperability channels or approve other qualified entities to hold such licenses. States may delegate the approval process for Interoperability channels to another entity, such as regional planning committees.

(f) License applications for Interoperability channels in the 700 MHz band must be approved by the SIEC. This requirement may be extended to other bands by incorporation into an SIEC's plan.

(g) Base and control stations must be licensed individually. A public safety entity meeting the requirements of Sec. 90.523 may operate mobile or portable units on any Interoperability channel without a specific authorization from the Commission provided it holds a part 90 license. All persons operating mobile or portable units under this authority are responsible for compliance with part 90 of these rules and other applicable federal laws.

(h) Standardized and unique Interoperability channel names are provided in the Interoperability Frequency Table and shall be the names used to reference these channels. Except as noted, all radios with alphanumeric displays of 8 or more characters shall display these standard names as the channel reference name. On paired (mobile relay) channels, the letter "D" (for "direct") shall be affixed to the end of the channel name to denote simplex operation on the output frequency of the mobile relay pair.

(i) Stations in bands other than 700 MHz shall comply with this naming requirement no later than January 1, 2008.

(ii) Manufacturers who provide radios that are software programmed shall provide radio programming software that only permits these standardized names to be programmed into radios on the interoperability channels no later than January 1, 2006. This limitation applies only to software for radios in current production on January 1, 2006 or later.

(1) This requirement may be disabled when the software detects that it is not operating within the United States.

(2) This requirement may be overridden within the United States only when the associated channel is part of a continuous cross-band interconnect and a common name is to be programmed into all channels participating in the interconnect. When such an override occurs, the software shall prompt the user with a text warning that this interoperability naming restriction applies and a different use is a violation of FCC Rules.

(i) Calling channels. The following channels and channel pairs are dedicated nationwide for the express purpose of Interoperability calling only: 155.7525 MHz, 453/458.2125 MHz, 821/866.0125 MHz and 700 MHz channel pairs 39/999, 40/1000, 681/1641, and 682/1642. They may not be used primarily for routine, day-to-day communications. Encryption is prohibited on designated calling channels.

(j) Narrowband trunking channels. The following 700 MHz interoperability channel pairs may be combined with the appropriate adjacent secondary trunking channel pairs and used in the trunked mode on a secondary basis to conventional interoperability operations: 23/983, 24/984, 63/1023, 64/1024, 103/1063, 104/1064, 143/1103, 144/1104, 183/1143, 184/1144, 223/1183, 224/1184, 263/1223, 264/1124, 303/1263 and 304/1264. For every ten general use channels trunked at a station, entities may obtain a license to operate in the trunked mode on two of the above contiguous Interoperability channel pairs. The maximum number of Interoperability channel pairs that can be trunked at any one location is eight. Trunked use must be strictly on a secondary, non-interference basis to conventional interoperability operations. The licensee must monitor and immediately release these channels when they are needed for interoperability purposes.

(k) Narrowband data channels. The following 700 MHz channel pairs are reserved nationwide for the express purpose of data transmission only: 279/1239, 280/1240, 921/1881, and 922/1882.

[Insert I/O Channel Table per NCC Document IO-0107D-20030716]

Footnotes applicable to Interoperability Channel table:

(1) This frequency is dedicated for the express purpose of nationwide calling per 90.23(i).
(2) Primary use of this frequency is for interagency communications by emergency medical licensees
(3) Primary use of this frequency is for interagency communications by fire licensees.
(4) Primary use of this frequency is for interagency communications by police licensees.
(5) Use permitted pursuant to Federal agency agreement; see FCC Public Notice DA 01-1621.
(6) Secondary trunking on this frequency permitted per 90.23(j)
(7) Primary use of this frequency is for interagency data communications per 90.23(k).
(8) Primary use of this frequency is for interagency communications through vehicular repeaters.
(9) 50 kHz use only, no aggregation permitted.
(10) National wideband data common channel, 50 kHz use only.
(11) After December 7, 2000 this frequency is available primarily for public safety interoperability only communications. Stations licensed prior to December 7, 2000 may continue to use this frequency on a co-primary basis until January 1, 2005. After January 1, 2005, all operations will be secondary to co-channel interoperability communications.
(12) This frequency will be assigned with an authorized bandwidth not to exceed 11.25 kHz. In the 450-470 MHz band, secondary telemetry operations pursuant to Sec. 90.238(e) will be authorized on this frequency.
(13) This frequency not available for assignment in Puerto Rico and the US Virgin Islands.
(14) See 90.20(d)(39)
(15) This frequency will be assigned only for one-way paging communications to mobile receivers. Transmissions for the purpose of activating or controlling remote objects on this frequency are not authorized. This frequency will be authorized a channel bandwidth of 25 kHz.
(16) This channel shall be included in both repeater and simplex modes in all 700 MHz mobile and portable equipment.

Section 90.547 is amended as follows:

Sec. 90.547 ~~Narrowband~~ Interoperability channel capability requirements.

(a) Except as noted in this section, mobile and portable transmitters operating on narrowband channels in the 764-776 MHz and 794-806 MHz frequency bands must be capable of operating on all of the designated nationwide narrowband Interoperability channels pursuant to the narrowband standards specified in this part.

(1) Mobile and portable transmitters that are designed to operate only on the Low Power Channels specified in Sec. 90.531(b)(3) and (4) are exempt from this Interoperability channel requirement.

(2) Mobile and portable transmitters that are designed to operate only in the data mode must be capable of operation on the data Interoperability channels specified in Sec. ~~90.531(b)(1)(i)~~ 90.23(k); but need not be capable of voice operation on other Interoperability channels.

(3) Mobile and portable transmitters that are designed to operate only in the voice mode do not have to operate on the data Interoperability channels specified in Sec. ~~90.531(b)(1)(i)~~ 90.23(k).

~~(b)~~ (4) Mobile and portable transmitters designed for narrowband data are not required to be narrowband voice capable, and vice versa.

(b) Except as noted in this section, mobile and portable transmitters operating on wideband channels in the 764-776 MHz and 794-806 MHz frequency bands must be capable of operating on all of the designated nationwide 50 kHz wideband interoperability channels pursuant to the wideband standards specified in this part.

(1) Mobile and portable single purpose peripheral devices with embedded transmitters not designed for the transport of messages (a video surveillance transmitter, for example) are exempt from the provisions of this Section. Embedded means that the transmitter is contained within the same case as the device originating the transmission and is designed solely to support that device.

(2) Mobile and portable transmitters not capable of operating pursuant to the wideband standards specified in this part are prohibited from operating on the wideband interoperability channels.