

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of:

Implementation of Sections 309(j) and 337
of the Communications Act of 1934 as
Amended

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WT Docket No. 96-86
FILED/ACCEPTED

MAR 19 2010

Federal Communications Commission
Office of the Secretary

**THE NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL
PETITION FOR RULE MAKING, TO ALLOW AIRCRAFT VOICE OPERATION ON
CERTAIN INTEROPERABILITY CHANNELS**

The National Public Safety Telecommunications Council (NPSTC) respectfully requests the Commission to amend the applicable provisions of Subpart R of the Code of Federal Regulations Part 90 to allow secondary non-interoperability aircraft voice operations on certain interoperability channels subject to State approval consistent with Part 90.525. This petition further requests the Commission to either amend Part 90.531 (b)(7) to allow the use of certain interoperability channels separately from the channels listed in 90.531 (b)(1)(iii) or clarify that the channels listed in Part 90.531 (b)(7) can be operated separately as 12.5 kHz wide channels for secondary trunking or air to ground voice use in compliance with Part 90.548. NPSTC recommends that transmissions in 700 MHz be limited to two ("2") watts as found in Part 90.541(d).

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NPSTC, at the request of the State of Maryland¹, considered voice operation with air to ground communications for public safety and found that systems using primarily trunked operations on state 700 MHz channels² or general pool 700 MHz channels³ have problems with aircraft trying to operate without rendering interference to distant systems. In the case of the State of Maryland, the aircraft would likely violate the Commission's directives⁴ and potentially interfere with other licensees outside of the State. NPSTC believes that Maryland is not unique in the problem of aircraft operations in 700 MHz and non-interference to other systems and offers this Petition in the belief that this is a nationwide issue affecting all licensees operating aircraft radios in the 700 MHz band. Further, NPSTC believes that this Petition also potentially provides help to licensees operating in the 800 MHz frequency band.

It is unclear in Subpart R if the secondary interoperability channels identified in Part 90.531 (b)(7) may be used separately from the adjacent 700 MHz channels identified in Part 90.531(b)(1)(iii) allowing for two separate 12.5 kHz bandwidth channels or only one aggregated 25 kHz channel. As the technology has evolved since the rules were written, it is clear that most systems are being constructed using P25 technology currently employing one ("1") voice slot with a 12.5 kHz channel width and potentially migrating to two ("2") voice slots in 12.5 kHz technology following adoption of the P25 Phase II standard. If the channels found

¹ The State of Maryland is currently planning for a statewide voice system utilizing narrowband 700 MHz channels.

² See 47 CFR §90.531(b)(5)

³ See 47 CFR §90.531(b)(6)

⁴ See *Third MO&O and Third R&O*, 15 FCC Red at 19873 ¶ 67 & n. 207 citing 47 C.F.R. § 73.699. This was followed by DA 01-406 issued February 15, 2001 stating, "State Licensees may operate facilities in interstate boundary areas so long as the field strength of station transmissions is limited to 40 dBu/m at the licensee's geographic border. Adjoining states may agree to alternate field strengths at their common border".

in Part 90.531(b)(7) can only be used with the adjacent channels found in Part 90.531(b)(1)(iii) to form a 25 kHz wide channel, then this spectrum is likely to be orphaned and unused in most cases. Therefore greater spectrum utilization would be possible with the added flexibility to use as separated 12.5 kHz wide channels and for the purposes as specified in this Petition.

The National Public Safety Telecommunications Council

The National Public Safety Telecommunications Council (NPSTC) is a federation of public safety organizations whose mission is to improve public safety communications and interoperability through collaborative leadership. NPSTC pursues the role of resource and advocate for public safety organizations in the United States on matters relating to public safety telecommunications. NPSTC has promoted implementation of the Public Safety Wireless Advisory Committee (PSWAC) and the 700 MHz Public Safety National Coordination Committee (NCC) recommendations. NPSTC explores technologies and public policy involving public safety telecommunications, analyzes the ramifications of particular issues and submits comments to governmental bodies with the objective of furthering public safety telecommunications worldwide. NPSTC serves as a standing forum for the exchange of ideas and information for effective public safety telecommunications.

The following 15 organizations participate in NPSTC:

- American Association of State Highway and Transportation Officials
- American Radio Relay League
- Association of Fish and Wildlife Agencies
- Association of Public-Safety Communications Officials-International
- Forestry Conservation Communications Association
- International Association of Chiefs of Police
- International Association of Emergency Managers
- International Association of Fire Chiefs
- International Municipal Signal Association
- National Association of State Chief Information Officers
- National Association of State Emergency Medical Services Officials
- National Association of State Foresters

National Association of State Technology Directors
National Emergency Number Association
National Sheriffs' Association

Several federal agencies are liaison members of NPSTC. These include the Department of Homeland Security (the Federal Emergency Management Agency, the Office of Emergency Communications, the Office of Interoperability and Compatibility, and the SAFECOM Program); Department of Commerce (National Telecommunications and Information Administration); Department of the Interior; and the Department of Justice (National Institute of Justice, CommTech Program). NPSTC has liaison relationships with associate members, the Telecommunications Industry Association and the Canadian Interoperability Technology Interest Group.

State of Maryland Proposal

The State of Maryland approached NPSTC with the proposal in Appendix A. The State is building a statewide public safety land mobile radio system primarily using the 700 MHz channels designated for state use⁵. Maryland geographically adjoins the Commonwealths of Pennsylvania and Virginia, the District of Columbia, and the states of Delaware and West Virginia. As stated in Appendix A, the State found several problems in contemplation of the state designated channels for air to ground voice operations. As NPSTC evaluated the State's proposal, it became clear this issue is not unique to Maryland or other state 700 MHz licensees but is also a problem shared with the general category 700 MHz channels⁶ as well. The

⁵ See 47 CFR §90.531(b)(5)

⁶ See 47 CFR §90.531(b)(6)

propagation characteristics of the 700 MHz band as stated in Appendix A, creates a high probability of interference over a large area when used by aircraft⁷.

To minimize the unintended consequence of interference generation, the power output of 700 MHz transmitters operating from aircraft must be very limited. NPSTC believes that the power limitations identified in Part 90.541(d) of two (“2”) watts of effective radiated power (“ERP”) are sufficient for aircraft operations. Higher power authorizations would likely extend the geographic areas subject to the potential of unintended interference.

The interoperability channels listed in 90.531 (b)(7) are likely to be rarely used for secondary trunking as most future 700 MHz interoperability systems will use P25 technology and not require a 25 kHz wide channel. As NPSTC analyzed the Maryland proposal, it was clear that the 700 MHz channels found in Part 90.531(b)(7) identified by Maryland were the most appropriate to use. They are likely to be lightly used and with eight frequencies, sharing arrangements among geographically adjacent agencies can be developed through the Statewide Interoperability Executive Committees (“SIEC”) or similar body in the affected states to minimize interference. The Commission has designated the States to administer the use of the 700 MHz interoperability channels⁸ and it is important to extend that administration to this proposed new use. The SIECs will need to coordinate use with adjacent States to minimize interference. As with trunking, the air to ground voice use would be secondary to conventional interoperability uses. While the State of Maryland is concerned with state use, this petition is to extend that use to all eligible public safety agencies per Part 90.525.

⁷ This also applies to the 800 MHz band and this petition if granted will bring similar help to that band.

⁸ See 47 CFR §90.525

NPSTC believes adoption of these rule changes would help to solve the ongoing problem of air to ground voice needs of public safety. The changes will also add flexibility to more efficiently use the 700 MHz spectrum. The proposed use is secondary to conventional Mutual aid uses and therefore will not harm interoperability. There is a further protection of the States administering the use of the channels to minimize interference between users.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ralph A. Haller", with a horizontal line extending to the right.

Ralph A. Haller, Chair
National Public Safety Telecommunications Council
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March 18, 2010

Appendix A

State of Maryland Proposal

State of Maryland

700 MHz Air-to-Ground Channels

National Public Safety Telecommunications Council

Petition for Rule Making

The State of Maryland is in the process of developing a 700 MHz land mobile radio network designed to support all state government first responders as well as local governments desiring to add their public safety users to the new statewide network. Maryland adjoins the Commonwealths of Pennsylvania and Virginia, the District of Columbia, and the states of Delaware and West Virginia. As an important part of the State's public safety operations, Maryland's agencies operate a fleet of fixed and rotary wing aircraft.

The Federal Communications Commission has adopted operating rules for 700 MHz. Pursuant to the guidance of the Commission, Public Notice DA 01-406 lays out certain rules for state governments operating 700 MHz systems. Included within the Commission's rules is a provision that states, "*State Licensees may operate facilities in interstate boundary areas so long as the field strength of station transmissions is limited to 40 dBu/m at the licensee's geographic border. Adjoining states may agree to alternate field strengths at their common border*".

On behalf of the State, RCC Consultants performed an analysis of 700 MHz radio propagation from an aircraft operating as low as 1,500 feet and with RF output at 1.5 watts transmitting to a ground station. The findings suggested that a 700 MHz radio signal will

transmit up to approximately 100 miles. Maryland believes that it would be extremely difficult for it or any other state to maintain aircraft operations transmitting on channels listed in §90.531(b)(5) (“state channels”) proximate to a state border and comply with the provisions of DA 01-406. The Commission’s Public Notice does provide that “*Adjoining states may agree to alternate field strengths at their common border*”. While Maryland could comply through coordination with its adjoining states, it would still be very difficult to protect other states such as New Jersey and Ohio, which do not adjoin the border of Maryland, yet are within the signal contour of a transmitter broadcasting from a state aircraft operating over the northeastern or western part of the state.

Maryland also notes that when states in close physical proximity to one another attempt to develop statewide 700 MHz systems, the ninety-six (“96”) 12.5 KHz state channel frequencies are used and re-used in statewide systems very quickly. While the states could identify specific channels from the state channel pool for air-to-ground operations, any channels so identified could not be re-used in adjoining states or non-adjoining states proximate to the state licensee’s areas of operation without violating the Commission’s provisions found in DA 01-406. Maryland believes that this is a nationwide issue affecting all of the country’s contiguous states and that a federal remedy is necessary to facilitate air-to-ground operations using the 700 MHz frequency band.

The Petitioners believe that the Commission should style a remedy through an amendment to the current assignment of 700 MHz channel assignments as found in §90.531(b). §90.531(b)(7) describes certain channels now provided as secondary trunking channels. This section of the Commission’s rules would provide eight (“8”) operating frequency pairs that would permit states to negotiate agreements for interference free operations.

Proposed language for the change is offered below.

90.531(b)(7) *Air-to-Ground or Secondary trunking channels.*

The following channel pairs are reserved for *secondary air-to-ground or* secondary trunking operations: 21/981, 22/982, 101/1061, 102/1062, 181/1141, 182/1142, 261/1221, 262/1222, 659/1619, 660/1620, 739/1699, 740/1700, 819/1779, 820/1780, 899/1859, and 900/1860.

They may be used *for air-to-ground operations by a licensee meeting the eligibility requirements of § 90.523 or when not used for air-to-ground operations*, only in combination with the appropriate adjacent Interoperability channel pairs specified in paragraph (b)(1)(iii) of this section in trunked systems. *Use of air-to-ground frequencies shall be coordinated pursuant to § 90.525.*

§ 90.541 Transmitting power limits

(d) Transmitters operating on the narrowband low power channels listed in §§ 90.531(b)(3), 90.531(b)(4), *or for aircraft air to ground operations* must not exceed 2 watts (ERP).