

**Before the  
Federal Communications Commission  
Washington, DC 20554**

In the Matter of: )  
 )  
International Bureau Seeks Comment on ) IB Docket No. 16-185  
Recommendations Approved by World )  
Radiocommunication Conference Advisory )  
Committee )

**COMMENTS OF  
THE NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL**

The National Public Safety Telecommunications Council (NPSTC) submits these comments in response to the Public Notice in the above captioned proceeding.<sup>1</sup> The Public Notice seeks comment on World Radiocommunication Conference Advisory Committee draft recommendations to be considered by the 2019 World Radiocommunication Conference and draft proposals provided by the National Telecommunications and Information Administration (NTIA).

In these comments, NPSTC addresses Agenda Item 1.3 involving potentially upgrading satellite overlay operations in the 460-470 MHz band from secondary to co-primary status with respect to terrestrial land-based operations. As noted in the NTIA Draft Preliminary Views for WRC-19 which accompany the Public Notice, this proposal has the potential to adversely impact land mobile operations in the band, including public safety operations. NPSTC is concerned that the caveats and testing proposed by NTIA will become diminished through the overall WRC negotiation process. Also, any future U.S. testing should include the public safety community.

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<sup>1</sup> Public Notice, *International Bureau Seeks Comment on Recommendations Approved by World Radiocommunication Conference Advisory Committee*, IB Docket No. 16-185, released October 30, 2017.

## **The National Public Safety Telecommunications Council**

The National Public Safety Telecommunications Council 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 16 organizations serve on NPSTC's Governing Board:<sup>2</sup>

- 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 Council of Statewide Interoperability Coordinators
- National Emergency Number Association
- National Sheriffs' Association

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<sup>2</sup> These comments represent the views of the NPSTC Governing Board member organizations.

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 for 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, Communications Technology Program). Also, Public Safety Europe is a liaison member. NPSTC has relationships with associate members: The Canadian Interoperability Technology Interest Group (CITIG) and the Utilities Technology Council (UTC), and affiliate members: The Alliance for Telecommunications Industry Solutions (ATIS), Open Mobile Alliance (OMA), Telecommunications Industry Association (TIA), TETRA Critical Communications Association (TCCA), and Project 25 Technology Interest Group (PTIG).

### **NPSTC Comments**

The Commission's International Bureau seeks comment on recommendations approved by World Radiocommunication Conference Advisory Committee (WRC-19 Advisory Committee) and draft U.S. preliminary views on various items to be considered in WRC-19, as provided by the National Telecommunications and Information Administration (NTIA). As follow-up to Resolution 766 adopted at the 2015 WRC, Agenda Item 1.3 at WRC-19 will consider possible upgrading of the secondary allocation to the meteorological-satellite service (space-to-Earth) to primary status and a possible primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz.

NTIA advised the following as part of the background provided in the U.S. Draft Preliminary Views regarding Agenda Item 1.3:

The meteorological-satellite (space-to-Earth) service operates on a secondary basis to the fixed and mobile services and thus it must not interfere with these services. The Resolution 766 proposal has the potential to adversely impact approximately 127,000 licensed PLMR operations if not implemented in a way that ensures protection of terrestrial operations from harmful interference. Critical applications of licensees using this spectrum include Public Safety dispatch of first responders; correctional institution communications; state and local government operation and homeland security response; critical infrastructure communications (water, sewer, power and fuel pipeline control); and hospital operations. In addition, the 460-470 MHz band is used by alarm service providers to monitor at least 400,000 homes, businesses and government facilities in the United States to detect fires, medical emergencies, home invasions and other urgent circumstances, and alert first responders. At least 200,000 alarm radios in this band are used in countries outside of the United States. To protect the fixed and land mobile services within the United States, a power flux density (pfd) limit of -152 dBW/m<sup>2</sup>/4kHz has been imposed on the meteorological-satellite (space-to-Earth) service.

Preliminary testing by the relevant United States government agencies has shown that, at satellite angles of arrival below 25 degrees, the -152 dBW/m<sup>2</sup>/4kHz limit is not adequate to protect terrestrial operations. To provide the necessary protection to existing services in the band, globally, the next generation of ADCS transmitters must implement direct sequence spread spectrum or equivalent technology in the satellite downlink to reduce the pfd in the 460-470 MHz band to less than -152 dBW/m<sup>2</sup>/4kHz, or such other levels determined necessary to protect terrestrial operations, depending on the angle of arrival. [footnotes deleted]<sup>3</sup>

However, rather than opposing upgrading satellite operations in the 460-470 MHz band from secondary to co-primary status, the U.S. Draft Preliminary Views regarding Agenda Item 1.3 states the following:

**U.S. VIEW:** The United States supports conducting and completing sharing and compatibility studies with the co-primary Fixed and Mobile services including IMT. These studies would determine the feasibility of potentially upgrading the MetSat (space-to-Earth) allocation to

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<sup>3</sup> United States Draft Preliminary Views, page 52.

primary status, and the potential addition of a primary EESS (space-to-Earth) allocation in the frequency band 460-470 MHz, while protecting the current primary allocations for fixed and land mobile services including IMT systems and maintaining the conditions contained in No. **5.289**.

Should studies support the upgrade of the MetSat service and/or addition of a primary allocation to the EESS, the appropriate pfd limit should be determined for MetSat (space-to-Earth) and EESS (space-to-Earth) systems to protect the existing and planned deployments of primary services in the frequency band 460-470 MHz. Should studies conclude that a less restrictive pfd limit than that contained in Resolution **766** (WRC-15) *considering further a)* can protect incumbent services, then the pfd limit ( $-152$  dBW/m<sup>2</sup> /4 kHz) shall apply. To the extent that sharing and compatibility studies, field tests and other relevant input indicate that a more restrictive pfd limit is necessary to protect terrestrial operations, such more restrictive limit must be adopted if any upgrade to the existing MetSat secondary allocation or new allocation to EESS is proposed.<sup>4</sup>

Land mobile operations in the 460-470 MHz UHF band utilize a standard pairing in which base receivers operate at 465-470 MHz and transmit at 460-465 MHz. A portion of the channels in this band are designated for public safety operations and some channels are for Business/Industrial use. Of primary public safety concern, various UHF satellite system assignments for the space-to-earth direction overlap public safety land mobile base receive frequencies.

For example, the ICARUS narrowband satellite allocation at 468.1 MHz with a 50 kHz bandwidth would operate in the middle of the UHF MED channel base receivers potentially affecting multiple UHF MED channels. A low earth orbit (LEO) broadband satellite allocation at 468 MHz with 3 MHz bandwidth also could impact base receivers in the UHF MED channels. The ARGOS broadband satellite allocation at 465 MHz with a 4 MHz bandwidth could impact base

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<sup>4</sup> United States Draft Preliminary Views, page 52 and 53.

receivers in public safety base receive sub-band 465.000-465.650 MHz. GEO-1K-2 broadband satellite allocation at 466 MHz @ 2 MHz bandwidth could impact base receivers in same public safety sub-band. All of these satellite systems also could impact critical business/industrial base receiver operations in the 465-470 MHz sub-band.

Given the potential impact to public safety and business/industrial operations in the UHF band, NPSTC believes the concerns and conditions NTIA expresses in the background section of the U.S. Draft Preliminary Views regarding Agenda Item 1.3 are essential to be maintained as part of the U.S. position. Unfortunately, it is not uncommon for such concerns and conditions to be diminished in the WRC negotiations process. NPSTC urges the Commission and the U.S. as a whole to maintain inclusion of these concerns and conditions as the U.S. position is finalized and negotiated with other countries leading up to, and during, WRC-19.

Should the U.S. engage in testing to help ensure land mobile operations are protected from interference, NPSTC strongly recommends technical experts in the public safety community and related industry be invited to participate in such testing. In NPSTC's view, satellite operations in the 460-470 MHz band should not be upgraded to co-primary status without credible and convincing evidence that land mobile operations in the band would not be impacted by the variety of satellite operations that could result.

### **Conclusion**

NPSTC appreciates the opportunity to provide input on the U.S. Draft Preliminary Views for WRC-19. Agenda Item 1.3 that potentially could upgrade satellite operations in the 460-470 MHz band to co-primary status is of significant concern, given its impact to public safety and other land mobile base receivers in the UHF band. Public safety and business/industrial land mobile base receivers operate in the 465-470 MHz sub-band and UHF band satellite allocations, both narrowband

and broadband, overlap that spectrum. Accordingly, satellite operations in the 460-470 MHz band should not be upgraded to co-primary status without credible and convincing evidence that public safety and business/industrial land mobile operations in the band would not be impacted. NPSTC strongly recommends technical experts in the public safety community and related industry be invited to participate in any testing conducted to assess the feasibility of co-primary satellite operations.

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