



LAND MOBILE COMMUNICATIONS COUNCIL

May 19, 2017

Federal Advisory Committee for the 2019 World Radiocommunication
Conference (WAC)

Attn: Donna Christianson, WAC Secretariat

Federal Working Groups/ USWP7B042R2

WRC-19

Attn: Catherine Sham, NASA

**Re: WRC-15 Resolution No. 766 Proposal to Elevate Satellite
Downlinks to Primary Status in the 460- 470 MHz Band**

Agenda Item 1.3

The Land Mobile Communications Council (“LMCC”) hereby submits its comments on the proposal set forth in WRC-15 Resolution No. 766 to elevate satellite downlink operations to primary status in the 460- 470 MHz band. As discussed below, the Resolution 766 proposal has the potential to adversely impact more than 100,000 licensed PLMR operations if not implemented in a way that ensures protection of terrestrial operations from harmful interference. Accordingly, LMCC submits its concerns and recommendations below.

Introduction

The LMCC is a non-profit association of organizations representing virtually all users of land mobile radio systems, providers of land mobile services, and manufacturers of land mobile radio equipment. The LMCC acts

with the consensus and on behalf of the vast majority of public safety, business, industrial, transportation and private commercial radio users, as well as a diverse group of land mobile service providers and equipment manufacturers. Membership includes the following organizations:

- American Association of State Highway and Transportation Officials (“AASHTO”)
- American Automobile Association (“AAA”)
- American Petroleum Institute (“API”)
- Association of American Railroads (“AAR”)
- Association of Public-Safety Communications Officials-International, Inc. (“APCO”)
- Aviation Spectrum Resources, Inc. (“ASRI”)
- The Monitoring Association (“TMA”)(formerly Central Station Alarm Association)
- Energy Telecommunications and Electrical Association (“ENTELEC”)
- Enterprise Wireless Alliance (“EWA”)
- Forest Industries Telecommunications (“FIT”)
- Forestry-Conservation Communications Association (“FCCA”)
- International Association of Fire Chiefs (“IAFC”)
- International Municipal Signal Association (“IMSA”)
- MRFAC, Inc. (“MRFAC”)
- National Association of State Foresters (“NASF”)
- Telecommunications Industry Association (“TIA”)
- Utilities Technology Council (“UTC”)

- Wireless Infrastructure Association (“WIA”)

These organizations, individually and collectively, work with their members and with the Federal Communications Commission (“FCC”) in an effort to maximize the use of the limited spectrum resources available to private land mobile radio (“PLMR”) users.

The proposal embodied in Resolution 766 is of obvious concern to the PLMR licensees and organizations represented by the LMCC and its constituent members. A search of the FCC’s ULS database reveals that there are at least 126,861 active licenses with at least one frequency authorized in the 460-470 MHz band. Examples of licensees using this spectrum include Public Safety entities such as the Ohio Highway Patrol, City of Chicago Office of Emergency Management and Communications, University of Oklahoma Police Department, Tennessee Department of Safety and Homeland Security, Evergreen Park Fire Dept., and New York State Dept. of Corrections; State governments such as the States of California, Kentucky, Maryland and West Virginia; local governments such as New York City, City of Boston, Los Angeles County, and Montgomery County, Alabama; critical infrastructure providers that rely on radio communications to maintain vital services to the public, such as Orlando Utilities Commission, Wisconsin Power and Light Company, Georgetown Water and Sewer, and Marathon Pipe Line LLC; and companies providing health and safety related products and services such as Caterpillar of Delaware, DuPont, United Airlines, Dow Chemical, and St. Anthony’s Hospital. If satellite use is allowed on a primary basis throughout the 460-470 MHz band without adequate interference protections, all of these vital terrestrial operations could be adversely affected, thereby threatening not only the economy but public safety.

In this regard, LMCC shares the concerns of member The Monitoring Association (formerly the Central Station Alarm Association) and related Alarm Industry Communications Committee (AICC), which submitted comments to the FCC International Bureau on February 21, 2017 concerning the potential impact of Resolution 766 on several frequencies in the 460-470 MHz band for use in the sending of alarm signals indicating a fire, home invasion, medical emergency, dangerous carbon monoxide level and other emergencies. As noted in their comments, the alarm industry has already established the potential for harmful interference from satellite operations to

alarm signaling, which may block the timely transmission of emergency signals. This threat was confirmed by the National Oceanographic and Atmospheric Administration's RF contractor Alion Science and Technology, which issued a report in May 2010 concluding that "the presence of the NOAA-19 A-DCS transmission caused harmful RFI to CSA alarm networks." This interference in 2010 created the risk of a delayed response by first responders, threatening lives and severe damage to property.

LMCC Recommendations on the Resolution 766 Effort

Resolution 766 calls for studies to determine appropriate steps to avoid interference to terrestrial operations. LMCC recommends that the protective measures described below should be adopted as part of any expanded use of the 460-470 MHz band by satellites as part of WRC-19:

- Part 90 Private Land Mobile spectrum users should be part of the process for formulating any changes in the rules governing satellite use of the 460-470 MHz band. As described above, there are numerous industries and public safety entities, many serving important safety-related functions, which are licensed to utilize this spectrum. LMCC is a recognized representative of the Private Land Mobile community, and includes all of the FCC-designated frequency coordinators that coordinate terrestrial operations in the 460-470 MHz band.
- Interested members of the PLMR industry should be part of the testing that is called for by Resolution 766 to confirm that terrestrial radio operations in the 460-470 MHz band can be protected from satellite communications in the band. In this regard, LMCC requests that it have a qualified representative present during the testing, and has made arrangements for such representative to be available for this process.

- Radios operating in the 460-470 MHz band should not be installed on any satellite until testing determines conclusively that terrestrial operations will be protected from interference.
- The use of a reduced power density limit, spread spectrum technology and other mitigation measures discussed in Resolution 766 as possible means to prevent interference to terrestrial users should be mandatory for satellites operating in the band.
- Continuous carrier or other modes of operation that do not monitor before transmitting should be prohibited on satellite radios operating in the band.
- Satellite operations in the 460-470 MHz band should not be allowed to operate on the Low Power Pool channels designated in 47 CFR § 90.267, because the significantly lower power of such terrestrial operations make them more susceptible to interference.
- Radios designed for satellite use in the 460-470 MHz band should be designed to allow remote reduction of power and/or shut down when the satellite is passing over the United States, in case the interference protection measures implemented as a result of Resolution 766 prove ineffective once the satellite is launched.
- Until testing proves that terrestrial PLMR operations will be protected, LMCC cannot support co-primary status for satellite operations in the 460-470 MHz band

Conclusion

For the foregoing reasons, LMCC urges that the above protective measures be included in the United States position on the proposal to change permitted satellite use of the 460-470 MHz band pursuant to Resolution 766.

Respectfully submitted,

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