

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

In the Matter of:)
)
Globalstar, Inc. Petition for Notice of Inquiry) RM-11808
Regarding the Operation of outdoor)
U-NII-1 Devices in the 5 GHz Band)

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

The National Public Safety Telecommunications Council (NPSTC) submits these comments in response to the Public Notice regarding the above captioned proceeding.¹ Globalstar has indicated it is experiencing a 2dB rise in the noise floor of its licensed 5 GHz spectrum in which the Commission has allowed unlicensed use on a shared basis. Globalstar has requested the Commission issue a Notice of Inquiry to gather additional information and help determine the cause. NPSTC supports issuance of a Notice of Inquiry requested.

¹ Public Notice, *Consumer Governmental Affairs Bureau Reference Information Center Petition for Notice of Inquiry* Report No. 3092, released June 6, 2018.

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:²

- 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

² 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

In its Petition for Notice of Inquiry submitted May 21, 2018, Globalstar, Inc. (Globalstar) notes the Commission issued a Notice of Proposed Rulemaking in 2013 proposing to lift restrictions on outdoor operations and raise the power levels allowed for unlicensed operations in the 5 GHz Unlicensed National Information Infrastructure (UNII) bands. In issuing its Order in 2014, the Commission adopted some, but not all, of Globalstar's recommendations to help minimize interference to its licensed operations.

Globalstar has indicated it is experiencing a 2 dB rise in the noise floor in the 5 GHz spectrum in which it holds a license for uplinks. The petition provides the following background:³

Globalstar's satellites currently communicate with 23 gateway earth stations around the world, each serving an area of approximately 700,000 to 1,000,000 square miles. In the

³ Globalstar petition at page 5.

United States and its territories, Globalstar currently operates gateway earth stations in Clifton, Texas; Sebring, Florida; Wasilla, Alaska; and Barrio of Las Palmas, Cabo Rojo, Puerto Rico.

Globalstar is authorized for feeder uplink transmissions from its gateway earth stations to its space stations at 5096-5250 MHz and for feeder downlink transmissions between its satellites and its gateway facilities in the 6875-7055 MHz band. Each Globalstar satellite has a feeder uplink antenna that “hears” all transmissions at 5096-5250 MHz – including U-NII-1 Wi-Fi transmissions at 5170-5250 MHz – within the 7,800 km diameter feeder link coverage area. Globalstar’s satellites then translate, amplify, and downlink this traffic to its MSS customers at 2483.5-2500 MHz.

Unfortunately, under the 2014 “sharing” framework, aggregate U-NII-1 interference is beginning to diminish Globalstar’s MSS subscriber capacity, drain its satellite power, create gaps in its MSS signal coverage, and degrade its service quality in the United States, adjacent areas of Canada and Mexico, Caribbean nations, and Central and South American countries.

The Globalstar petition includes measurements of the noise floor over the U.S. made from its satellite constellation. Globalstar advises that it initiated its program to measure the noise level in its feeder uplink spectrum over the United States in May 2014, and that it first determined a baseline noise floor over the United States at 5096-5250 MHz. Subsequently, on a monthly basis, Globalstar conducted noise level measurements. The petition advises the following results from these noise floor measurements:⁴

Globalstar’s measurements from May 2014 until February 2017 detected no increase in the noise level. Then, in February 2017, the first satellite measured a 1 dB increase at 5096-5250 MHz. Over the following months, six additional satellites detected a similar 1 dB increase. In March 2017, the first Globalstar satellite measured a 2 dB noise rise. By November 20, 2017, four other satellites had detected a similar 2 dB rise in the noise level. As of April 2018, six of the eight Globalstar satellites involved in this program were measuring a 2dB noise rise, with the other two satellites measuring a 1 dB noise rise, confirming that the noise level over the United States is now 1 to 2 dB higher than it was when the Commission adopted the *2014 5 GHz Order*. [footnotes omitted]

⁴ Globalstar petition at page 11.

Accordingly, Globalstar has petitioned the Commission to issue a Notice of Inquiry to assess further the rise in the noise floor and its causes.

NPSTC supports the Globalstar request. We note that Globalstar service is used in both urban and wildland environments by first responders and that significant interference to that service could be detrimental to public safety. Also, the Commission increasingly expresses interest in spectrum sharing as a means to help satisfy the many types of communications that require access to spectrum. Sharing rules are often prospective when adopted, and an assessment of sharing provisions based on actual experience would be beneficial.

When major incidents occur, public safety agencies respond to resolve the problem. They then sometimes develop an after-action report that assesses what aspects of their response went well and what needs to be changed to improve the response for subsequent incidents. NPSTC believes it is important for the Commission to provide a similar honest assessment on spectrum sharing, if sharing will continue to be a solution it promotes.

In the grand scheme of spectrum management, the degree and types of spectrum sharing being implemented by the Commission is relatively new. NPSTC believes the situation Globalstar has described with the increase in noise floor provides an opportunity for the Commission to assess whether or not the sharing provisions it implemented in 2014 in the 5 GHz band are sufficient. The 2 dB rise in the noise floor is certainly of concern. However, it is somewhat unclear why that increase in noise abruptly occurred in 2017 when the Commission's rules for unlicensed operations sharing the band were revised back in 2014. NPSTC supports a Notice of Inquiry or other mechanism to provide an "after action report" on the cause of the rise in the noise floor and to assess what has gone well and what needs to be changed with spectrum sharing at 5 GHz.

Conclusion

NPSTC supports the Globalstar request for a Notice of Inquiry to assess why a 2 dB rise in the noise floor has occurred in the 5 GHz band, starting in 2017. Globalstar service is used in both urban and wildland environments by first responders and significant interference to that service could be detrimental to public safety. Also, given the Commission's increased reliance on spectrum sharing, NPSTC believes it is important to assess whether sharing provisions enacted are sufficient to prevent interference. The situation Globalstar has described and the measurements it has provided offers the Commission an opportunity to assess sharing in a segment of the 5 GHz band and provide an "after-action report" on whether the sharing provisions enacted need to be changed to minimize interference going forward.

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