

BEFORE THE  
**Federal Communications Commission**  
WASHINGTON, D.C. 20554

In the Matter of )  
 )  
**Globalstar, Inc.** ) RM-11685  
 )  
Petition for Rulemaking Concerning the )  
Commission’s Regulatory Framework for Terrestrial )  
Use of the Big LEO MSS Band )

To: The Commission

**COMMENTS OF THE U.S. GPS INDUSTRY COUNCIL**

The U.S. GPS Industry Council (the “Council” or “USGIC”) and Garmin International, Inc. (“Garmin”),<sup>1</sup> by their counsel and pursuant to Section 1.405(a) of the Commission’s Rules (47 C.F.R. § 1.405(a)), hereby comment upon the Petition for Rulemaking filed on November 13, 2012 by Globalstar, Inc. (“Globalstar”).<sup>2</sup> In the Petition, Globalstar seeks to alter the Commission’s regulatory framework for the “Big LEO” MSS by introducing the ability to provide terrestrial mobile service outside the scope of the existing Ancillary Terrestrial Component (“ATC”) rules.<sup>3</sup> The Council does not object to adoption of the near-term rule changes that Globalstar proposes for the S-band Big LEO spectrum. However, any later proposal to use Globalstar's L-band MSS spectrum for terrestrial broadband applications must

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<sup>1</sup> In these Comments, “the Council” is hereafter used to refer to both the USGIC and Garmin.

<sup>2</sup> See Globalstar, Inc. Petition for Rulemaking, RM-11685, filed November 13, 2012 (“Globalstar Petition”); Public Notice, Report No. 2971 (released November 30, 2012) (inviting statements opposing or supporting the Globalstar Petition).

<sup>3</sup> See, e.g., Globalstar Petition at 4-7. The current Big LEO ATC rules are codified at 47 C.F.R. § 2.106, Note US380, § 25.149 and § 25.254.

ensure that the installed user base of the Global Positioning System (“GPS”) is protected from desensitization and overload.

### **I. Introduction and Statement of Interest**

As the Commission is aware, the Council is a non-profit trade association representing GPS equipment providers, and serves as an information resource to the Government, the media, and the public on GPS technology, applications, and innovation. The Council and its members continue to support the Commission’s efforts to promote wireless broadband services consistent with the overarching National Space Policy goal that the “United States must maintain its leadership in the service, provision, and use of global navigation satellite systems.”<sup>4</sup> The Council focuses its comments here on matters with a direct impact on the continued successful operation of installed and planned applications using GPS within the 1559-1610 MHz band that is allocated on a primary basis to the Radionavigation-Satellite Service (“RNSS”). The Council also notes, however, that the 1559-1610 MHz band is shared by multiple RNSS operators. As GLONASS operations, like GPS operations, are globally available, it is necessary to ensure the protection of the entire 1559-1610 MHz band from potential terrestrial operations in the adjacent Globalstar L-band uplink immediately above 1610 MHz.

In evaluating the potential impact of broadband communication services operating in adjacent bands upon the reception of space-based positioning, navigation and timing information in GPS applications, the Council carefully evaluates out-of-band emissions (“OOBE”), overload

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<sup>4</sup> National Space Policy of the United States of America at 5 (June 28, 2010), available at [http://www.whitehouse.gov/sites/default/files/national\\_space\\_policy\\_6-28-10.pdf](http://www.whitehouse.gov/sites/default/files/national_space_policy_6-28-10.pdf). See also *Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands*, Report & Order and Order of Proposed Modification in WT Dkt. No. 12-70, FCC 12-151, *slip op.* at 51 (¶ 121) (released December 17, 2012) (“2 GHz AWS-4 R&O”) (“The Commission has long recognized the importance of GPS and our responsibility to ensure that it receives appropriate interference protections from other radiocommunication services”).

issues and other potential interference concerns on a service-by-service and band-by-band basis.<sup>5</sup> Each proposal to deploy terrestrial mobile service technology in bands adjacent to GPS or with other potential impact on GPS applications must be considered carefully to ensure that any new service will not interfere with existing and well-established GPS performance in public safety, aviation, defense, navigation, monitoring, agricultural and other RNSS uses, which range in importance from highly beneficial consumer uses to critical public safety requirements.

## **II. Globalstar’s Proposals for the Big LEO S-band at 2483.5-2495 MHz**

The Council sees no significant issues relating to Globalstar’s proposed Terrestrial Low-Power Service (“TLPS”), which would operate in the S-band Big LEO spectrum at 2.4 GHz. Globalstar’s planned low-power, Wi-Fi use of the portion of its existing MSS spectrum at 2483.5-2495 MHz, as well as a portion of the adjacent spectrum in the Industrial, Scientific and Medical (“ISM”) bands at 2473-2483.5 MHz, should not pose an OOB problem for GPS/RNSS because of its inherently low-power, short-range transmission characteristics based on the IEEE 802.11 standard.<sup>6</sup>

It is the Council’s understanding that the only proposal that is directly advanced in the Globalstar Petition is the TLPS hybrid offering. However, because Globalstar’s long term plans clearly anticipate eventual deployment in the S-band spectrum of a Frequency Division Duplex (“FDD”) LTE-based terrestrial mobile broadband network,<sup>7</sup> it will be necessary in connection

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<sup>5</sup> See, e.g., Joint Letter from DISH Network Corporation and USGIC, WT Docket Nos. 12-70 *et al.*, at 1 & 2 n.2 (September 27, 2012) (“DISH/USGIC Joint Submission”) (The Council and DISH Network Corp. (“DISH”) jointly report their agreement on OOB limitations covering the 2 GHz bands, and note the Council’s belief that interference issues relating to GPS should be considered on a case-by-case basis).

<sup>6</sup> See Globalstar Petition at 39-41.

<sup>7</sup> See Global Petition at 3

with such a service, if it is ultimately considered and adopted, to implement appropriate OOB limitations and overload protection of GPS applications in the RNSS band.

### **III. Globalstar's Proposals for the Big LEO L-band at 1610-1617.775 MHz**

In addition to broader terrestrial deployment in the S-band Big LEO spectrum, Globalstar's proposal suggests that the Commission initiate "a separate, parallel rulemaking on terrestrial operations in the lower Big LEO band" spectrum at 1610-1617.75 MHz."<sup>8</sup> These operations would apparently include terrestrial broadband user uplinks, which would pose significant receiver desensitization and overload issues for the highly sensitive GNSS receivers in the adjacent band. Globalstar itself acknowledges the existence of issues "regarding the coexistence of GPS systems and commercial wireless operations in the L-band ... [and] recognizes that it may require additional time for the Commission to authorize FDD LTE throughout the Big LEO band."<sup>9</sup> The technical challenges involved in attempting to address RNSS receiver desensitization and overload caused by adjacent band high-density terrestrial operations is the paramount technical concern for GPS. In addition, mobile broadband handsets raise distinct interference concerns, which may be aggregated by the presence of multiple handsets, that must also be examined in the context of any future plan to introduce terrestrial mobile service in the Big LEO L-band at 1610-1617.775 MHz. Consequently, any potential consideration of mobile broadband use in the L-band at 1610 MHz must be evaluated independently of the consideration of a terrestrial broadband allocation at S-band.

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<sup>8</sup> Globalstar Petition at 44-46.

<sup>9</sup> Globalstar Petition at 36.

**IV. Conclusion**

As outlined herein, the Council supports the Commission's efforts to act on proposals that will provide additional spectrum for terrestrial wireless use when such plans are consistent with continued robust use of the GPS/RNSS spectrum for provision of the myriad publicly-beneficial applications it supports. Globalstar's proposal to add Fixed and Mobile allocations to the 2483.5-2495 MHz band meets these criteria, provided that any future LTE operations in these bands are subject to appropriate OOB limits that have yet to be determined. At the same time, and as Globalstar itself acknowledges, terrestrial Fixed or Mobile use of the 1610-1617.775 MHz band would require more significant study concerning desensitization and overload of receivers in the adjacent GPS band.

Respectfully submitted,

**U.S. GPS INDUSTRY COUNCIL**

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**CERTIFICATE OF SERVICE**

I, Sharon Krantzman, hereby certify that a true and correct copy of the foregoing “Comments of the U.S. GPS Industry Council” was sent by first-class, postage prepaid mail this 14<sup>th</sup> day of January, 2013, to the following:

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