

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Spire Global, Inc.)	IBFS File Nos. SAT-LOA-20151123-00078
)	SAT-AMD-20161114-00107
Amended Application for LEMUR-2)	SAT-AMD-20180102-00001
Satellites)	

COMMENTS OF HIBER GLOBAL

Hiber Global (“Hiber”), a Netherlands company implementing a global non-geostationary satellite orbit (“NGSO”) system to perform low power Data Collection Services (“DCS”) in the 399.9-400.05 MHz band,¹ hereby submits these comments regarding Spire Global Inc.’s (“Spire”) above-referenced amended application for authority to launch and operate “LEMUR-2” satellites.²

Specifically, Hiber questions Spire’s proposal for telemetry, tracking, and command (“TT&C”) uplink operations in the 399.9-400.05 MHz frequency band. The proposed TT&C operations are contrary to U.S. and international allocations, as well as the Commission’s Part 25 satellite service rules, and further are unsupported by any request for waiver of such rules.³ The 399.9-400.05 MHz band is allocated, both domestically and internationally, to mobile satellite

¹ In May 2018, the Radiocommunications Agency Netherlands granted approval to Hiber Global to launch a fleet of small satellites.

² See *Satellite Policy Branch Information: Space Station Applications Accepted for Filing*, Public Notice, Report No. SAT-01325 (June 29, 2018) (accepting Spire amendment for filing).

³ See Spire, Amendment, Exh. A (Narrative), IBFS File No. SAT-AMD-20180102-00001, at 20 (filed Jan. 2, 2018) (“Spire does not request a waiver of the U.S. Table of Frequency Allocations for its conforming use of the 399.9-400.05 MHz (Earth-to-space) with its Phase II satellites.”) (“Spire Amendment 2018”).

service (“MSS”) uplink and radionavigation satellite (“RNS”) operations on a primary basis.⁴ Spire’s proposed operations in the band, however, are limited to TT&C, which by itself does not qualify as either MSS or RNS.

Moreover, contrary to Section 25.202(g) of the Commission’s rules,⁵ Spire has not shown how its proposed TT&C operations in the band will co-exist with other authorized services. In fact, it has been established at the World Radiocommunication Conference 2015 (“WRC-15”) that “the operation of the telecommand links [in the 399.9-400.05 MHz band] would cause harmful interference to the DCS satellite receivers on board the satellites.”⁶ This matter is being further addressed by ITU-R Working Party 7B (“WP7B”) under Agenda Item 1.2 (“AI 1.2”) in preparation for the 2019 WRC (“WRC-19”).⁷ Indeed, the U.S. Executive Branch’s Draft Preliminary Views for WRC-19 noted that “[t]he output power levels of the earth stations at the antenna port of these telecommand links (Earth-to-space) can be much higher than the moderate to low power levels traditionally used for the operations of EESS, MetSat, or MSS systems, and

⁴ See 47 C.F.R. § 2.106 (including nn. US319 & US320).

⁵ See *id.* § 25.202(g) (permitting TT&C operations on frequencies “that are not at a band edge only if the transmissions cause no greater interference and require no greater protection from harmful interference than communications traffic on the satellite network or have been coordinated with operators of authorized co-frequency space stations at orbital locations within six degrees of the assigned orbital location”).

⁶ Resolution 765 (WRC-15), *Establishment of in-band power limits for earth stations operating in mobile-satellite service, the meteorological-satellite service and the Earth exploration-satellite service in the frequency bands 401-403 MHz and 399.9-400.05 MHz.*

⁷ See Resolution 809 (WRC-15), *Agenda for the 2019 World Radiocommunication Conference* (proposing, under AI 1.2, “to consider in-band power limits for earth stations operating in mobile-satellite service, the meteorological-satellite service and Earth exploration-satellite service in the frequency bands 401-403 MHz and 399.9-400.05 MHz, in accordance with Resolution 765 (WRC-15)”).

service links in the frequency bands ... 399.9-400.05 MHz.”⁸ The United States delegation at WP7B has taken the firm position that EIRP limits should be introduced as soon as possible for the entire frequency band at 399.9-400.05 MHz to protect DCS.⁹ This U.S. position has been included in the relevant WRC Conference Preparatory Meeting (CPM) text for AI 1.2.¹⁰

Furthermore, despite claiming that it has begun coordinating with other International Telecommunication Union (“ITU”) filings in this band,¹¹ Spire has yet to do so with Hiber’s planned DCS operations under Dutch filings with the ITU.¹² Thus, any grant of Spire’s application, at a minimum, should be conditioned upon successful completion of coordination with all other ITU filings in the 399.9-400.05 MHz band.

Based upon the foregoing, Hiber urges the Commission to reject Spire’s request to operate TT&C in the 399.9-400.05 MHz band. Alternatively, any Commission approval of such non-conforming TT&C operations in the band should be conditioned upon operations on a non-harmful interference basis and compliance with ITU coordination requirements.

⁸ Letter from Paige R. Atkins, Associate Administrator, Office of Spectrum Management, NTIA, to Mr. Robert Nelson, Chief Engineer, International Bureau, FCC, IB Docket No. 16-185, IWG-3-022 (filed Apr. 3, 2017)

⁹ *Id.*

¹⁰ Draft CPM text on WRC-19 agenda item 1.2, Report on the meeting or Working Party 7B (Geneva, 14-18 May 2018), May 25, 2018 (password protected).

¹¹ Spire Amendment 2018 at 21.

¹² The 399.9-400.05 MHz frequency band is subject to coordination under Article 5 of the Radio Regulations. *See* Article 5, ITU Radio Regulations n. 5220 (stating that use of the frequency band 399.9-400.05 MHz by the mobile-satellite service is subject to coordination under [ITU Radio Regulations] No. 9.11A).

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Theresa Rollins, hereby certify under penalty of perjury that the foregoing Comments of Hiber Global was served this 30th day of July, 2018, by depositing a true copy thereof with the United States Postal Service, first class postage pre-paid, addressed to:

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/s/ Theresa Rollins
Theresa Rollins