



Federal Communications Commission  
Washington, D.C. 20554

April 25, 2018

Mr. Jonathan Rosenblatt  
General Counsel  
Spire Global, Inc.  
575 Florida Street, Suite 150  
San Francisco, CA 94110

Subject: IBFS File Nos. SAT-LOA-20151123-00078, as amended by SAT-AMD-20161114-00107 and SAT-AMD-20180102-00001; Call Sign: S2946

Dear Mr. Rosenblatt:

As part of the above-captioned application, as amended, Spire seeks authority construct, deploy and operate up to 972 LEMUR satellites, 100 of which are described as Phase IB/IC, and 872 of which are described as Phase II satellites.<sup>1</sup> We request additional information in order to continue processing Spire's request.<sup>2</sup>

In support of the amendment, you submitted an Orbital Debris Risk Mitigation Plan (Debris Mitigation Plan). The Debris Mitigation Plan notes a collision risk of  $4 \times 10^{-6}$  for a single Phase IC or Phase II satellite of nominal mass, in a normal operational configuration, and under "worst-case" conditions (that is, if the satellite is deployed to an orbital altitude of 650 km, which is the highest orbit requested in Spire's amendment).<sup>3</sup> This implies an aggregate worst case collision risk, assuming fully reliable deployment, of greater than  $1 \times 10^{-3}$  for the satellites for which authorization is sought in this application, as amended. Please provide an analysis of the aggregate in-orbit collision risk for Spire's entire Phase IB/IC and Phase II deployment, given the planned range of deployments and nominal mass. In providing this analysis, you may wish to estimate the number of satellites that will be deployed at particular altitudes or within particular altitude ranges. The analysis should also include any planned Spire satellites that would be deployed under ITU filings of other administrations during the license period. In addition, please describe the method (including any assumptions) used to derive the area used in calculating the effective area to mass ratio of the satellites.

We also ask that you address the anticipated number of collision avoidance maneuvers by the International Space Station (ISS), assuming that it or an object with a similar size and configuration remains in orbit throughout the license term, that might result from the anticipated deployments.

The application also requests processing pursuant to a first-come, first-served procedure, rather than being processed pursuant to the modified processing round procedure that applies to applications for

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<sup>1</sup> The number of simultaneously operational satellites in its entire system is not to exceed 175. See Application, Narrative at 1.

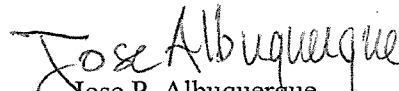
<sup>2</sup> 47 CFR § 25.111(a) ("The Commission may request from any party at any time additional information concerning any application, or any other submission or pleading regarding an application, filed under this part.")

<sup>3</sup> Application, Exhibit C, Orbital Debris Risk Mitigation Plan at 8.

“NGSO-like”<sup>4</sup> systems under section 25.157 of the Commission’s rules, 47 CFR § 25.157.<sup>5</sup> We ask that you provide any additional information or arguments to support this request. We note that Spire states it will use the 399.9-400.05 MHz frequency band for non-voice non-geostationary mobile-satellite service (MSS), and we specifically request that you address whether waiver of a processing round for an MSS system – rather than an Earth Exploration Satellite Service system – serves the public interest and does not undermine the purpose of the modified processing round rule. As part of this response, we also specifically request that you address whether the proposed use of the band will interfere with existing operators or preclude future entrants from operating in this band, and provide supporting analysis.

We ask that Spire provide the additional information requested in this letter by **May 24, 2018**. Failure to respond by this date may result in the dismissal of Spire’s amendment application, without prejudice to re-filing.<sup>6</sup>

Sincerely,

  
Jose P. Albuquerque  
Chief, Satellite Division  
International Bureau

Cc: George John  
Legal & Regulatory Counsel

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<sup>4</sup> The term “NGSO-like satellite operation” means: (1) operation of any NGSO satellite system, and (2) operation of a geostationary orbit mobile-satellite service satellite to communicate with earth stations with non-directional antennas. 47 CFR § 25.157(a).

<sup>5</sup> Application, Narrative at 19.

<sup>6</sup> 47 CFR § 25.157(c) (“The Commission will dismiss an application for failure to prosecute or for failure to respond substantially within a specified time period to official correspondence or requests for additional information.”)