



April 6, 2020

By Electronic Filing

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th St., SW
Washington, D.C. 20554

Re: *Oral Ex Parte Presentation*
HNS Licensee Sub, LLC
IBFS File Nos. SES-LIC-20170807-00877, SES-LIC-20170807-00882, SES-LIC-20170807-00888, SES-LIC-20170807-00891, SES-LIC-20170807-00893, SES-LIC-20170807-00894, SES-AMD-20190221-00283, SES-AMD-20190221-00299, SES-AMD-20190221-00302, SES-AMD-20190221-00305, SES-AMD-20190221-00307 & SES-AMD-20190221-00309
Call Signs E170152, E170157, E170163, E170166, E170168 & E170169

Dear Ms. Dortch:

Pursuant to Section 1.1206(b) of the Commission's rules,¹ HNS License Sub, LLC ("Hughes") submits this notice of a teleconference on April 2 regarding the above-referenced applications for certain Jupiter 3 gateway earth stations. At the teleconference, Hughes representatives, including Jennifer Manner, Kimberly Baum, and Phuong Pham (outside counsel), discussed the attached talking points with International Bureau and Wireless Telecommunications Bureau staff, including Jose Albuquerque, Kerry Murray, Kal Krautkramer, Paul Blais, Alyssa Roberts, John Schauble, Blaise Scinto, Steve Benzo, Tim Hilfiger, and Stephen Zak.

Furthermore, Hughes noted that, in addition to accounting for Section 25.136's earth station siting restrictions, its selection of sites for the planned non-collocated gateways in Rapid City, Rifle, and Simi Valley is based upon a number of special considerations, including the following: (i) size and scope of the satellite's gateway beam coverage on ground for the highest frequency band used by the gateway;² (ii) geographic separation distance between gateway earth

¹ See 47 C.F.R. § 1.1206(b); see also *Satellite Communications Services Information re: Actions Taken*, Public Notice, Report No. SES-02245, at 64-67 (Feb. 26, 2020) (designating above-referenced applications as "permit-but-disclose").

² During the design phase, satellite operators design gateway beams based on information available at the time. Specifically, operators select gateway beam locations that are the most likely to provide the desired availability requirements, which depend on separation between the co-frequency beams to minimize gateway-to-gateway interference, rain fade in the area, and other technical needs of the gateway links. As the satellite is constructed, it becomes increasingly more difficult and expensive to consider changes to the gateway beams. At this point in construction of the Jupiter 3 satellite, changing the gateway beams



stations; (iii) physical spacing limitations within the gateway feed horn array on the satellite; (iv) availability of land for purchase or lease; (v) access to fiber connectivity and electrical facilities; and (vi) ease of access for personnel providing operational support. As a follow up to this discussion, Hughes has confirmed that the elliptical gateway beam coverage areas within which its gateways must be located are approximately 15 km by 22 km. Even within these elliptical areas, consideration must be given to required separation distances between co-frequency gateways. Taking into account these special considerations, along with Section 25.136's earth station siting requirements (*e.g.*, population density limits), this leaves very few places, even in the most rural and remote areas, where a gateway can be successfully sited.

Hughes also explained that it has considered and found that site-shielding of its gateway antennas is unlikely to be feasible or necessarily provide an effective solution. This is largely due to the large size of the Jupiter 3 gateway antennas (*i.e.*, 9.2 to 10 meters in diameter), which would require terrain or man-made shielding at a height of at least 35 feet. Given that the planned sites in Rapid City, Rifle, and Simi Valley lack existing terrain or man-made structures to provide such shielding, Hughes would have to construct and install a new structure, which in turn would require landlord or site operator approvals and local zoning and planning board authorizations, as well as surmounting potential opposition from local residents, without any guarantee that such approvals will be granted. Significantly, Hughes is not confident that the new structure will offer adequate shielding in practice.

Other Ka-band gateway licensees have proposed to shield their gateway antennas as part of their site construction to mitigate interference to terrestrial operations, but only under limited circumstances not applicable here. Specifically, these proposals have been limited to shielding much smaller antennas (*e.g.*, 1.5-meter in diameter) less than half the size of the Jupiter 3 gateways proposed here³ or to protecting nearby terrestrial facilities for which the gateway licensee has received notice during the coordination process.⁴ Moreover, the Commission has

may not be technically feasible given the physical limitations of the gateway feed horn array on the satellite, and is likely impossible without significant cost and substantial program delays.

³ See, *e.g.*, SpaceX Services, Inc., IBFS File Nos. SES-AMD-20191129-01548, Attachment (Amendment) at 1, A-2 (Nov. 29, 2019) (proposing shielding of 1.5-meter gateway antennas in Greenville, Pennsylvania, to mitigate interference to 28 GHz UMFU operations).

⁴ See, *e.g.*, Viasat, IBFS File No. SES-LIC-20160610-00520 *et al.*, Exh. A (Technical Analysis) at 1-4 (June 10, 2016) (proposing shielding of 9.1-meter gateway antennas, but only "if necessary" to protect terrestrial facilities notified during coordination); Viasat, IBFS File No. SES-LIC-20160610-00547 *et al.*, Exh. A (Technical Analysis) at 1-4 (June 10, 2016) (proposing shielding of 4.1-meter gateway antennas, but only "as needed" to protect terrestrial facilities notified during coordination).



not required other Ka-band gateway licensees to implement site-shielding as a condition of license.⁵ Consequently, shielding is not suitable here and should not be required.

Please contact the undersigned with any further questions.

Sincerely,

/s/ Jennifer A. Manner

Jennifer A. Manner

Senior Vice President, Regulatory Affairs

Kimberly M. Baum

Vice President, Regulatory Affairs

Attachment

cc: Jose Albuquerque (FCC) Blaise Scinto (FCC)
Kal Krautkramer (FCC) Tim Hilfiger (FCC)
Kerry Murray (FCC) Stephen Zak (FCC)
Paul Blais(FCC) Gregory M. Romano (Verizon)
Alyssa Roberts (FCC) Daudeline Meme (Verizon)
John Schauble (FCC) Catherine Hilke (Verizon)
Steve Benzo (FCC)

⁵ See, e.g., SpaceX Services, Inc., IBFS File Nos. SES-LIC-20190906-01170 (granted Mar. 4, 2020); Viasat, IBFS File No. SES-LIC-20160610-00520 (granted Jan. 19, 2017); Viasat, IBFS File No. SES-LIC-20160610-00547 (granted Jan. 19, 2017).



FCC ACTION REQUIRED TO ENABLE JUPITER 3 SATELLITE SYSTEM TO MEET BROADBAND NEEDS ACROSS THE UNITED STATES

April 2020

- As the largest satellite broadband provider in the United States and globally, Hughes operates a fleet of high-capacity satellites providing services that meet or exceed FCC-defined broadband speeds to the United States and the Americas.
- Hughes' next-generation satellite, JUPITER 3, is planned for launch in 2021 and will deliver even higher estimated speeds of up to 100 Mbps down to consumers throughout the continental United States and in the Americas.
- To support consumer demand for satellite broadband across rural, remote, and other areas of the United States, Hughes is building out 20 U.S. gateway earth stations. Build-out alone for each gateway (including procuring the site, installing fiber and data centers, and constructing transmission facilities) can take up to one and a half years and costs approximately \$7 billion. Accordingly, with a 2021 satellite launch, Hughes already has started site procurement and construction. Any unplanned site changes at this point would have large financial implications and a serious impact on its ability to meet planned service dates. The associated gateway beams are fixed and limit the areas in which we can locate each gateway.
- Hughes filed applications for its planned gateways in August 2017, with amendments in February 2019, including a request for limited waiver of Section 25.136(a)(4)'s earth station siting requirements for four of these gateways.¹ The amended applications were placed on public notice in August 2019. No oppositions were filed during the public comment period. Hughes also had already completed coordination and received no objections from UMFU licensees during coordination.
- Despite numerous opportunities to raise timely objections, Verizon did not raise any concerns until its February 2020 informal filing against the requested waiver for six gateways.

Hughes Has Shown Good Cause for Granting the Requested Waiver

- Consistent with the Commission's waiver precedent and policy, Hughes has shown that: (i) special circumstances (including collocation at grandfathered sites and *de minimis* impact on UMFU operations) warrant a waiver; (ii) the requested waiver is consistent with the rule's underlying purpose to both provide opportunities to expand earth station use of the 28 GHz band and minimize any impact on terrestrial operations;² and (iii) such waiver serves the public interest by the FCC's and the Administration's goals of facilitating deployment of advanced, high-capacity broadband service to rural, remote, and underserved areas, without depriving any benefits of 5G service.

¹ In January 2020, at the request of staff, Hughes submitted modified Section 25.136 contours. These larger contours resulted in the contours around two additional sites (Rapid City, SD and Simi Valley, CA) covering protected highways. Hughes accordingly requested waivers for those sites at that time.

² See *Spectrum Frontiers Order* ¶ 55.

- Verizon offers no evidence of any existing or planned UMFU facilities that could be impacted, despite its obligation to disclose such details and coordinate in good faith under FCC rules. Verizon’s intent to satisfy its buildout requirements—provide service to 40% of the population in each area—does not mean that any UMFU facilities will be deployed near Hughes’ proposed gateway sites. Any interference risks to non-existent UMFU operations in potentially affected areas are theoretical at best.
- Hughes has shown that its proposed collocated gateway operations at three grandfathered sites (in Missoula, Bismarck, and Santa Clara) will have no significant impact on existing interference risks to UMFU operations. Specifically, Hughes submitted maps showing that: (i) the PFD contours for the proposed Jupiter 3 gateways are substantially smaller than, and largely encompassed within, the PFD contours for the grandfathered Jupiter 2 gateways, thus overlapping nearly the same protected road segments; and (ii) the Jupiter 2 gateway contour is substantially similar to the aggregate PFD contour for both Jupiter 2 and Jupiter 3 gateways at each grandfathered site, with the aggregate PFD contour overlapping slightly larger portions of the same protected roads encompassed within the Jupiter 2 gateway contour.
- Additionally, Hughes has shown that any potential impact on UMFUS operations at the remaining three non-collocated gateway sites (*i.e.*, Rapid City, Rifle, and Simi Valley) is *de minimis*, given that the PFD contour areas are very lightly populated (*i.e.*, approximately 29.5 to 143.9 people) and overlap approximately 64 to 473 meters of a protected road (or passenger railway in the case of Simi Valley). Despite its unsubstantiated claim of harm to 5G consumers, Verizon provides no evidence of any nearby UMFU facilities that could be impacted by the proposed gateways.
- Accordingly, the FCC should act expeditiously to grant Hughes’ waiver applications.