Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	File No. SES-MOD-20201204-01309
HNS License Sub, LLC	)	Call E170165
	)	
Modification of Application for Gateway Earth Station	)	

VERIZON PETITION IN RESPONSE TO APPLICATION FOR MODIFICATION[1]

To help meet the increasing consumer demand for wireless services, Verizon has invested significant resources in the 27.5-28.35 GHz band to deploy 5G Ultra Wideband in cities and other high-density areas across the country. As the Commission has recognized, these efforts to further the development of 5G and other innovative wireless technologies are vital to "ensure continued American leadership in wireless broadband, which represents a critical component of economic growth, job creation, public safety, and global competitiveness."[2]

HNS License Sub, LLC ("Hughes") seeks authorization to modify its Fixed Satellite Service ("FSS") gateway earth station in Lindon, Utah, which communicates with Hughes' geostationary orbit satellite in the 27.5-28.35 GHz band.[3] For its Lindon earth station, Hughes seeks authorization for the following modifications: (i) "antenna site changes to new location

[1] The Verizon companies participating in this proceeding are the regulated, wholly owned subsidiaries of Verizon Communications Inc.

[2] Second Report and Order, Second Further Notice of Proposed Rulemaking, Order on Reconsideration, and Memorandum Opinion and Order, *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, 32 FCC Rcd 10988, ¶ 1 (2017) ("*Spectrum Frontiers Second R&O*").

[3] *See* HNS License Sub, LLC, Application to Modify Lindon Jupiter 3 Gateway, File No. SES-MOD-20201204-01309 (filed Dec. 4, 2020) ("Hughes Application"). In conjunction with this Application, Hughes has submitted applications to modify four other gateway earth stations licensed to operate in Cheyenne, Wyoming, Bismarck, North Dakota, Simi Valley, California, and Quincy, Washington.

coordinates"; (ii) "antenna height increases"; (iii) "reduced power and equivalent isotropically radiated power density levels"; and (iv) "a minor antenna size increase from 9.2 to 10 m."[4] Consistent with its obligations under Part 101 and Section 25.136 of the Commission's rules to coordinate with Upper Microwave Flexible Use Service ("UMFUS") licensees, Hughes provided Verizon a Prior Coordination Notice before filing its Application.[5]

In its Application, Hughes states that, "except as otherwise noted," its "proposed gateway operations comply with Section 25.136's requirements for compatibility with [UMFUS] operations in the [28 GHz band]."[6] As relevant here, one such requirement is that an earth station's permitted interference zone must not infringe upon "any major event venue, urban mass transit route, passenger railroad, or cruise ship port" or "cross . . . Interstate[s], Other Freeways and Expressways, or Other Principal Arterial [roads]."[7] Recognizing that "[t]he wide bandwidths that are available to terrestrial services in the 28 GHz and 37.5-40 GHz bands will support vital new terrestrial services on roads, railroads, and mass transit routes,"[8] the Commission established this limitation to ensure that FSS earth stations would not "infringe" on areas where the Commission "could expect to have high demand for wireless services."[9]

Hughes' proposed modifications are inconsistent with this requirement as they extend the earth station's contour to cross a major highway.[10] Acknowledging this issue, Hughes states that

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[4] *Id.*, Ex. 1 at 1.

[5] *See id.*, Ex. 1 at 4; *see also* 47 C.F.R. §§ 101.103(d), 25.136(a)(4).

[6] Hughes Application, Ex. 1 at 4.

[7] 47 C.F.R. § 25.136(a)(4)(iii).

[8] *Spectrum Frontiers Second R&O* ¶ 130.

[9] Report and Order and Further Notice of Proposed Rulemaking, *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, 31 FCC Rcd 8014, ¶ 54 (2016).

[10] *See* Hughes Application, Attach. B at 3, 6 ("the 27.5-27.85 GHz PFD contour covers approximately 44 meters of Interstate 15 and 28 meters of Highway 114," and "the 27.85-28.35 GHz aggregate PFD contour covers approximately 146 meters of Interstate 15 and 65 meters of US Route 114").

its "operations may be authorized subject to a condition requiring Hughes 'to take immediate corrective action upon receipt of any complaint of actual interference occurring in the portions of roads that lie inside the corresponding pfd contour.'"[11] However, because its earth station no longer meets the criteria in Section 25.136 to operate without providing interference protection, the Commission should require Hughes to operate on a secondary unprotected, non-interference basis. In addition, the Commission should condition Hughes' license to require that Hughes mitigate any interference with UMFUS operations upon complaints of interference—for example, by using a shield—and not just interference occurring along major highways.

Separately, in calculating the PDF contour of its Lindon earth station for purposes of Section 25.136, Hughes uses clear sky EIRP levels.[12] But in its recent guidance on siting methodologies for earth stations operating in bands shared with UMFUS, the International Bureau states that "[d]emonstrations should take into account worst case input power density and not just input power density during clear sky conditions."[13] This requirement is important because taking into account worst-case input power density ensures that UMFUS providers can more predictably identify areas of possible interference. While Hughes claims "the earth station is licensed for clear sky EIRP levels pursuant to Section 25.204(e) of the Commission's rules,"[14] that Section states only that transmitting earth stations may exceed authorized levels during periods of rain fade. The Commission should thus require Hughes to supplement its Application with computation of the contour that accounts for worst-case input power density.

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[11] *Id.*, Ex. 1 at 4.

[12] *Id.*, Attach. B at 1-2.

[13] Public Notice, *International Bureau Issues Guidance on Siting Methodologies for Earth Stations Seeking to Operate in the 24.75-25.25 GHz, 27.5-28.35 GHz, 37.5-40 GHz, 47.2-48.2 GHz, and 50.4-51.4 GHz Frequency Bands to Demonstrate Compliance with Section 25.136*, 35 FCC Rcd 6347 at 3 (2020).

[14] Hughes Application, Attach. B at 2.

For the reasons above, the Commission should require Hughes to operate the Lindon earth station on a secondary unprotected, non-interference basis; require that Hughes mitigate any interference with UMFUS operations upon complaints of interference; and require Hughes to supplement its Application with computation of the Lindon earth station's contour that accounts for worst-case input power density.

Respectfully submitted,

/s/ Daudeline Meme

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June 21, 2021

AFFIDAVIT

Pursuant to 47 C.F.R. § 25.154, I hereby certify that I am the qualified person responsible for preparation of the information contained in this filing, that I am familiar with Part 25 of the Commission's rules, that I have either prepared or reviewed the information submitted in this filing, and that it is complete and accurate to the best of my knowledge and belief.

Respectfully submitted,

/s/ Roy T. Smith
Roy T. Smith

CERTIFICATE OF SERVICE

I hereby certify that on June 21, 2021, the foregoing Petition in Response to Application for Modification was served by via electronic mail[*] on the following:

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[*] Pursuant to Section 1.47(d) of the Commission's rules, Hughes has agreed to service by electronic mail of Verizon's Petition in Response to Application for Modification.