

EXHIBIT 1

DESCRIPTION OF PROPOSED MODIFICATIONS (Response to Question 43, Form 312)

Pursuant to 47 C.F.R. § 25.117, HNS License Sub, LLC (“Hughes”) requests authorization to modify Ka-band gateway earth stations licensed to operate in Cheyenne, WY, and Gilbert, AZ (Call Signs E170164 and E150076, respectively). Specifically, Hughes seeks minor modifications to: (i) add antennas for telemetry, tracking, and control (“TT&C”) communications with EchoStar XXIV (also known as “Jupiter 3”), a Ka- and Q/V-band geostationary orbit satellite authorized to provide fixed satellite services; and (ii) add EchoStar XXIV as a point of communications for the proposed TT&C antenna in Gilbert. The proposed modifications are further specified in the accompanying Schedule B, with all other authorized parameters remaining the same.¹

Commission Policy and Public Interest Benefits. Commission grant of the proposed minor modifications will permit deployment of key components of the overall EchoStar XXIV satellite network, thus enabling Hughes to offer unique and compelling public interest benefits, including additional and advanced broadband services to more than 1.5 million customers in North, Central, and South America. EchoStar XXIV, along with its capacity and speed capabilities, will join other satellites in the Hughes fleet to offer a true competitive broadband alternative across the country. The satellite will provide additional capacity, allowing Hughes to provide advanced broadband services with download speeds of 100 Mbps or higher to enterprises, the government, small businesses, and residential customers across the United States

¹ The proposed TT&C antennas will be located at the following WGS84 coordinates in Cheyenne and Gilbert, respectively: (i) 41° 7' 53.54" N, 104° 44' 9.93" W; and (ii) 33° 21' 56.56" N, 111° 48' 49.1" W. NAD83 coordinates for these locations are specified in the accompanying Schedule B.

and the Americas, helping to solve the digital divide. EchoStar XXIV also will support a variety of applications, including broadband access, aeronautical services for in-flight connectivity, residential and business VOIP, and next generation communications services, including 5G.

Ensuring successful launch and operations of the EchoStar XXIV satellite network also will bolster Hughes' disaster relief efforts and capabilities. In many cases, satellite is the only reliable communications system following a natural disaster.² Indeed, Hughes has provided crucial broadband services in the wake of numerous disasters, including Hurricane Michael in 2018 and Hurricane Dorian in 2019.³ Moreover, Hughes's ubiquitous service coverage and capacity remain key to meeting unprecedented consumer broadband demand resulting from the novel COVID-19 pandemic.

Furthermore, grant of the proposed technical modifications is consistent with the Commission's established policy of leaving satellite design decisions to system operators in order to promote competition, flexibility, and technical innovation.⁴ Accordingly, the Commission consistently has approved satellite system modifications "when a proposed modification presents no significant interference problem and conforms to the Commission's rules and policies."⁵

² See Comments of Liga de Cooperativas de Puerto Rico, WC Dkt. No. 18-143 et al. at 1-2 (Jul. 2, 2018); see also *The Uniendo a Puerto Rico Fund and the Connect USVI Fund*, Report and Order and Order on Reconsideration, 34 FCC Rcd 9109, ¶ 46 (2019) ("We agree with numerous commenters that allowing inclusion of satellite providers is particularly valuable in the context of Puerto Rico and the U.S. Virgin Islands due to satellite's resilience and availability post-hurricanes.")

³ See, e.g., EchoStar Satellite Services, LLC, Special Temporary Authorizations to Extend Service to the Bahamas for Emergency Operations, File Nos. SAT-STA-20190925-00101 & SAT-STA-20190906-00088 (Nov. 14 & Sept. 13, 2019).

⁴ See *New ICO Services G.P.*, Memorandum Opinion and Order, 21 FCC Rcd 14603, ¶ 5 (IB 2006).

⁵ *Id.*

Radiation Hazard Analysis. Radiation hazard analysis was conducted using the predictive methodology identified in OET Bulletin 65, and calculations are provided in Attachment A (Radiation Hazard Analysis). As shown in Attachment A, the average exposure levels in the near field, far field, transition field, near reflector surface, and between the reflector and ground are all below the applicable maximum permissible exposure (“MPE”) limit for occupational/controlled exposure. As is typical for parabolic antennas, the average exposure level exceeds the occupational/controlled MPE limit only between the feed horn and subreflector. However, since these large antennas will be mounted on a pedestal, the volume of space between the feed horn and subreflector will be above the head of anyone standing in front of the antenna. To ensure protection of the general public, the antennas will be located on private commercial property with limited access. Technicians responsible for operating these antennas are trained to shut down and secure the transmitter before performing any maintenance work.

Conclusion. Based on the foregoing, Commission grant of the proposed minor modifications will serve the public interest without creating any significant increase in interference risk.