

EXHIBIT 1

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

Pursuant to Section 25.117(b)(3) of the Commission's rules, HNS License Sub, LLC (together with its affiliates, "Hughes") requests a modification of its blanket license (Call Sign E060445) ("Ka-band Blanket License") to operate remote earth terminals in the Ka-band fixed satellite service ("FSS") throughout the United States. Specifically, Hughes seeks modification to operate up to 100,000 remote earth terminals (90 cm. in diameter) on the following Ka-band frequencies: 28.35-28.6 GHz (uplink), 29.25-30.0 GHz (uplink), 18.3-19.3 GHz (downlink), 19.7-20.2 GHz (downlink).¹ The new 90 cm. earth terminals will operate with certain Ka-band FSS satellites to provide high-speed broadband services to consumers throughout the United States utilizing the latest technologies.

I. BACKGROUND

Hughes uses its Ka-band Blanket License to operate a network of transmit/receive Ka-band FSS earth terminals to provide high-speed broadband services to U.S. consumers. These licensed earth terminals include antennas of various sizes, ranging from 69 cm. to 3.5 m. in diameter, and authorized to communicate with a number of Ka-band satellites,² including the following:

- 1) AMC-15 at 105° W.L. (U.S.-licensed);
- 2) AMC-16 at 85° W.L. (U.S.-licensed);
- 3) EchoStar-9 at 121° W.L. (U.S.-licensed);
- 4) EchoStar XVII at 107.1° W.L. (U.S.-licensed); and

¹ On July 21, Hughes filed a request for 60-day special temporary authorization to operate these same 100,000 Ka-band FSS earth terminals (90 cm. in diameter). *See* Hughes, Application for STA, IBFS File No. SES-STA-20170721-00792 (July 21, 2017).

² *See* Hughes, FCC Radio Station Authorization, Call Sign E060445, IBFS File No. SES-MOD-20151102-00791 (granted May 23, 2016).

5) EchoStar XIX (a/k/a JUPITER 2 or JUPITER 97W) (U.S.-licensed).³

II. DESCRIPTION OF PROPOSED MODIFICATION

This application seeks authority to operate up to 100,000 new 90 cm. Ka-band FSS earth terminals manufactured by Global Skyware. Like other earth terminals authorized under the Ka-band Blanket License, the 90 cm. earth terminals will operate with the same Ka-band satellites listed in Section I above, including EchoStar XIX, to provide high-speed broadband services to consumers throughout the United States.

As demonstrated in the accompanying Schedule B and Exhibit 3 (Global Skyware Engineering Test Report), the proposed earth terminals are fully consistent with the FCC's technical requirements, including power density limits under 47 C.F.R. § 25.138, antenna gain patterns specified in 47 C.F.R. § 25.209(a), and cross-polarization requirements under 47 C.F.R. § 25.209(b). Additionally, Hughes will operate these earth terminals in accordance with all applicable coordination agreements.⁴ Accordingly, there are no interference concerns with the proposed operations. Moreover, as demonstrated in the attached Exhibit 4 (Radiation Hazard Analysis), the proposed earth terminals will operate in compliance with the Commission's rules and guidelines for radiofrequency exposure, including maximum permissible exposure limits.

III. GRANT OF THE MODIFICATION WILL SERVE THE PUBLIC INTEREST

Grant of the requested modification will serve the public interest by allowing Hughes to deploy the latest technology in user terminals that will be used to provide high-speed broadband services to consumers throughout the United States. Specifically, these user terminals will be

³ On September 15, 2016, the FCC authorized Hughes to operate EchoStar XIX (a/k/a JUPITER 2 or JUPITER 97W), a Ka-band FSS satellite, at 97.1° W.L. *See* Hughes, Application, IBFS File No. SAT-LOA-20160624-00061 (granted Sept. 15, 2016).

⁴ Specifically, Hughes has previously concluded a coordination agreement with Iridium, the only NGSO licensee in the 29.25-29.50 GHz frequency band. The proposed operations will comply with the coordination agreement, hence protecting Iridium's operations in the band.

deployed to meet the broadband needs of business, government and residential users in the United States, delivering such high-demand services as access to the Internet, digital video streaming, voice over IP, digital music, interactive television, video conferencing, and high capacity two-way communications.

Hughes has deployed more than one million broadband user terminals throughout the United States and Canada, and demand continues to increase significantly with the successful launch of EchoStar XIX.⁵ This increasing demand for high-speed broadband service demonstrates that there is an ample market for the types of broadband services that Hughes provides.⁶ Additionally, areas of the United States that are currently underserved or unserved by terrestrial broadband technologies will benefit from the availability of these new user terminals. Deployment of these new user terminals will provide high-speed broadband service to rural and underserved areas, promote regional commerce, facilitate development of applications and content for consumers, and create new opportunities for economic development in the United States.

⁵ See Hughes, Press Release, *Hughes Launches World's Largest and Fastest Broadband Satellite Network* (Mar. 7, 2017).

⁶ See Hughes, Press Release, *Hughes to Highlight Growth in High Throughput Satellite Technology at CSAT 2014 Conference* (Sept. 8, 2014).