EXHIBIT 1

APPLICATION FOR GATEWAY EARTH STATION LICENSES

Pursuant to 47 C.F.R. § 25.115, HNS License Sub, LLC (together with its affiliates, "Hughes") seeks authority to operate a total of five gateway earth stations that will communicate with the Telstar 19 VANTAGE ("T19V") satellite at 63° W.L. The proposed gateways will be located in the Western and Midwestern United States, and will consist of four 8.1-meter earth station antennas and one 5.6-meter earth station antenna.[1]

Background. T19V is a geostationary satellite orbit ("GSO"), fixed satellite service ("FSS") space station that will operate at 63° W.L. On February 25, 2016, Telesat International Limited (with its affiliates, "Telesat") filed a petition for declaratory ruling seeking to serve the U.S. market by using T19V, which will operate on Ka-band (as well as Ku-band) frequencies to provide broadband Internet, video transmission, and very small aperture terminal ("VSAT") services to U.S. consumers.[2] Telesat will operate the T19V satellite's Ka-band beams that serve the United States and other areas outside Brazil pursuant to filings at the International Telecommunications Union ("ITU") for the IOMSAT-KA-63W and IOMSAT-KA-63W-R networks by the United Kingdom on behalf of the Isle of Man government.[3]

Public Interest Benefits. Grant of this application will serve the public interest by allowing Hughes to deploy gateway earth stations required for the T19V satellite, which is scheduled to be launched in the first quarter of 2018. The T19V satellite will enhance

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[1] Additional Ka-band gateways will also operate in Brazil, Chile, Canada, and Europe to provide feeder link and/or telemetry, tracking, and telecommand ("TT&C") services, pursuant to appropriate regulatory authorizations in those countries.

[2] *See* Telesat, Petition for Declaratory Ruling, IBFS File No. SAT-PPL-20160225-00020, at 4 (filed Feb. 25, 2016).

[3] Additionally, Telesat will operate T19V's Ka-band beams serving Brazil pursuant to Brazil's ITU filings for the B-SAT-1I-1 network. *See id.* at 4.

competition by adding Ka-band capacity at the 63° W.L. orbital location, thereby expanding the options available internationally to consumers for high-speed broadband services, including broadband Internet, video transmissions, and VSATs for maritime and aeronautical communications.[4] Additionally, operation of the proposed gateways in the United States will enable Hughes, a U.S.-headquartered company and the world's largest satellite broadband provider, to expand its U.S. operations resulting in increased U.S. high-technology jobs.

Proposed Antennas. The proposed gateway earth stations are expected to be deployed prior to T19V's expected launch in the first quarter of 2018, at the locations specified in Table 1 below, and will be used for non-TT&C, feeder link services required for the T19V satellite's consumer services to Latin America. They will consist of four 8.1-meter earth station antennas and one 5.6-meter earth station antenna. The technical data for each of these antennas is provided in the accompanying Form 312, Schedule B.

The proposed gateway earth stations will meet the antenna performance mask specified in Section 25.209(a) of the Commission's rules. The off-axis EIRP density levels specified in Section 25.138(a) are met with the antenna types that Hughes is proposing to use.

Table 1: Gateway Earth Station Sites

Sites	Site Contact Information	Antenna Diameter (meters)	Latitude (N)			Longitude (W)		
Albuquerque NM	725 6th Street, NW Albuquerque, NM 87102 (301) 428−7205	8.1	35	5	33.1	106	39	11.9

[4] *See, e.g.*, *Intelsat*, Order and Authorization, 19 FCC Rcd 2775, ¶ 9 (IB 2004) (finding that fixed satellite service downlink exclusively to Latin American countries will serve the public interest by "allowing Intelsat to fully utilize available unused capacity . . . and by expanding the presence of U.S. satellite operators in Latin America"); *see also Amendment to the Commission's Regulatory Policies Governing Domestic Fixed Satellites and Separate International Satellite Systems*, Report and Order, 11 FCC Rcd 2429, ¶ 24 (1996) ("We have permitted both domestic and international U.S.-licensed satellite capacity to be used for service to locations that do not involve U.S. service.").

Sites	Site Contact Information	Antenna Diameter (meters)	Latitude (N)			Longitude (W)		
Monee IL	6737 W Steger Road Monee, IL 60449 (301) 428−7205	8.1	41	28	1.7	87	46	34.0
North Platte NE	1003 East State Farm Road North Platte, NE 69103 (301) 428−7205	8.1	41	5	24.2	100	45	10.6
Riverside CA	22401 Juniper Flats Road Riverside, CA 92567 (301) 428−7205	8.1	33	47	43.5	117	5	26.1
Spokane WA	9815 West Hallett Road Spokane, WA 99224 (301) 428-7205	5.6	47	35	31.5	117	33	1.4

Operating Frequencies. The proposed earth stations will operate as gateways in communication with the T19V satellite network, and each gateway will operate in the following frequency bands:

Table 2 - Gateway Beams		
Frequency Band (GHz)	**Function**	**US Allocation**
27.85-28.35	Gateway Uplink	LMDS Primary
28.35-28.6	Gateway Uplink	FSS GSO Primary
29.25-30.0	Gateway Uplink	FSS GSO Primary
18.3-18.8	Gateway Downlink	FSS GSO Primary
19.7-20.2	Gateway Downlink	FSS GSO Primary

As noted in Table 2 above, the proposed gateway uplink frequencies include the 27.85-28.35 GHz band,[5] which is allocated to local multipoint distribution service ("LMDS") on a primary basis and to fixed satellite service on a secondary basis. The attached Comsearch

[5] *See also* IBFS File No. SAT-MOD-20141210-00127 (filed Dec. 10, 2014) (seeking authority to add 27.85-28.35 GHz band to authorization for Jupiter 97W).

coordination report shows that the proposed gateway earth stations will be capable of operating in the 27.85-28.35 GHz band on a non-harmful interference basis with existing and future LMDS systems.[6] Comsearch completed frequency coordination notice for all of the proposed locations in Table 1. Prior notification letters were sent to incumbent 28 GHz licensees, and no objections were received. Therefore, there are no interference concerns regarding the proposed use of the 27.85-28.35 GHz frequency band.

FAA Notification. The proposed 5.6 meter antenna is exempt from notification to the FAA under 47 C.F.R. §17.7(e)(3) as it will be less than 6.1 meters in height above ground level.[7] Additionally, the remaining four 8.1-meter gateway antennas are in compliance with the limits specified in 47 C.F.R. § 17.7(b), based upon verification using the FCC's TOWAIR software application.[8]

Radiation Hazard Analyses. For the two proposed antenna types (*i.e.,* 8.1 and 5.6 m.), radiation hazard analyses were conducted using the predictive methodology identified in OET Bulletin 65. The results are provided in Exhibits 4A and 4B (Radhaz Calculations).

Exhibits 4A and 4B show that the occupational/controlled exposure levels in the near field, far field, transition field, near the reflector surface, and between the reflector and ground are below the applicable maximum permissible exposure ("MPE") limit. As is typical for parabolic antennas, the occupational/controlled MPE limit is exceeded 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 reflector where the limit is exceeded will always be above the head of anyone standing in front of the antenna. To ensure the protection of the

[6] *See* Exhibit 2 (Comsearch Coordination Report).

[7] *See also* 47 C.F.R. § 25.113(c) (exemption from FAA notification when antenna height is less than 6.1 meters above ground).

[8] *See* Exhibit 3 (TOWAIR Verification).

general public, the antennas will be located either behind a fence or 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.

NGSO Feederlink Coordination. The 29.25-29.50 GHz band, which will be used by the proposed antennas, is shared on a co-primary basis with the feeder link stations of MSS NGSO systems under 47 C.F.R. § 25.258. Coordination successfully has been completed with Iridium, the only NGSO licensee in this band, for use of similar Ka-band gateways operating with the EchoStar 17 (also known as Jupiter 1) and EchoStar 19 (also known as Jupiter 2) satellites. EchoStar and Iridium are currently engaged in coordination discussions to ensure protection of the Iridium system. We anticipate this will be completed in the near term.

Waiver Request. Hughes requests a partial waiver of the data submission requirements of revised Section 25.132(b)(1) of the FCC's rules to allow for submission of certain measured data for each of the proposed antenna types.[9] Hughes' proposed 5.6- and 8.1-meter earth station antennas will be used to provide gateway services for the T19V satellite, which is scheduled to be launched in the first quarter of 2018.

Hughes seeks a limited waiver in order to allow the processing and grant of authority for its new antennas prior to the submission of certain data elements required under revised Section 25.132(b)(1). The required data is not available to Hughes currently and will not be available until after the first of each type of earth station antenna is constructed and ready for operation. As explained below, there is good cause to waive this rule and doing so is consistent with

[9] In December 2016, the FCC revised Section 25.132(b)(1) to apply to conventional Ka-band earth stations, deleted Section 25.138(d) as redundant, and deleted Section 25.138(e) as unnecessary. *See Comprehensive Review of Licensing and Operating Rules for Satellite Services,* Second Report and Order, 30 FCC Rcd 14713, ¶¶ 214-23, 322 (2015). These rule revisions have not become effective yet. Thus, Hughes further requests an interim waiver of the data submission requirements of Section 25.158(d)-(e), until the FCC's rule revisions become effective, as the FCC has found that these requirements are either redundant or unnecessary.

Commission precedent – in particular, because Hughes will supply the information required as soon as it is able to generate the data.[10] Grant of this request will serve the public interest by allowing the provision of additional advanced satellite broadband communication services in the United States without undermining the purpose of the Commission's rules.

Hughes is seeking a partial waiver of Section 25.132(b)(1) to allow submission of the required data within 60 days after filing its certification of construction completion under Section 25.133(b) on the basis that:[11]

- The specific new model of antenna specified has not previously been field deployed (meaning that the measured data required by revised Section 25.132(b)(1) of the FCC rules is not currently available).

- The proposed antennas are not "production" antennas in the mass-production, ubiquitous deployment of small terminal sense of the word. Instead, the antenna type for which are non-consumer gateway antennas that should be subjected to a different level of scrutiny than potentially problematic small antennas targeted for ubiquitous deployment to commercial and consumer users.

- Hughes will provide currently unavailable data per the specifications in revised Section 25.132(b)(1) for each type of antenna within 60 days after filing its required certification under Section 25.133(b) of the Commission's rules for completion of construction of the first of each antenna type proposed in this application.

Revised Section 25.132(b)(1) requires submission of a series of radiation patterns measured on a production antenna for each antenna type. This requirement is aimed at

[10] The Commission previously granted similar waiver requests. *See, e.g.,* Hughes, File No. SES-LIC-20150604-00332, Call Sign E150076 (granted Dec. 7, 2015) (adopting Condition 253 permitting submission of Section 25.138(d) antenna performance verification measurements after license grant); *Satellite Communications Services Information Re: Actions Taken*, Report No. SES-00748, File No. SES-AMD-20050901-01203 (Sept. 14, 2005) (Public Notice) (granting a waiver of Section 25.138 information requirements to DIRECTV).

[11] A waiver of the Commission's rules is warranted when "good cause" is shown. 47 C.F.R. § 1.3; *see also WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969). A waiver may be granted if the grant "would not undermine the policy objective of the rule in question and would otherwise serve the public interest." *See EchoStar KuX Corp. Application for Authority to Construct, Launch and Operate a Geostationary Satellite Using the Extended Ku-band Frequencies in the Fixed-Satellite Service at the 83° W.L. Orbital Location*, Order and Authorization, 20 FCC Rcd 919, ¶ 12 (2004) (Commission waiver for "good cause shown").

ensuring that an earth station transmitting to a satellite in the geostationary arc does not cause excessive interference to neighboring satellites. The antennas proposed in this application, however, have not been built yet. These antennas are not ordinary "production" antennas, and measured data for these antenna models, as used in the Hughes gateway network, will only be available after the first unit is constructed and tested on site.

The available antenna data points to the fact that co-frequency FSS operations of adjacent satellites will not be subject to harmful interference. Specifically, interference to other GSO FSS satellites will be within the levels permitted by the Commission's rules, and thus the GSO operations of other satellite operators will not be subject to harmful interference. Further, Hughes will be able to provide the additional data per the specifications in revised Section 25.132(b)(1) after each type of antenna is built.

Conclusion. Based upon the foregoing, Hughes requests that the Commission grant this application to operate the proposed gateway earth stations. As demonstrated herein, grant of this application is in the public interest, and the proposed operations will not cause any harmful interference.