EXHIBIT A
HNS License Sub, LLC
Application for Earth Station Blanket License
Response to Question 43
October 2011

NARRATIVE STATEMENT

HNS License Sub, LLC ("Hughes") seeks authority to operate eleven 6.3 meter Vertex earth station antennas and four 8.1 meter GDSATCOM antennas on a blanket-license basis. All 15 proposed earth stations will be operated as the gateway earth station network for Hughes's new Jupiter 107W satellite, which is scheduled to be launched in early 2012.

Compliance with §§ 25.209(a) and 25.138(a) of the Commission's Rules

Both the proposed new 6.3 meter Vertex and 8.1 meter GDSATCOM antennas which will deployed by Hughes will meet the antenna performance mask provided in § 25.209(a) of the Commission's Rules.

Earth stations transmitting in the frequency bands 28.35-28.6 GHz and 29.25-30.0 GHz are required to meet the off-axis EIRP performance levels provided in Section 25.138(a) of the Commission's Rules so as to prevent unacceptable interference into adjacent satellites. The off-axis levels in § 25.138(a) are met with both antenna types.

Compliance with § 25.203(k)

With respect to the proposal herein to operate earth terminals in the 29.25-29.3 GHz band segment, Hughes understands that there is presently only one non-geostationary mobile-satellite service ("NGSO MSS") feeder link earth station licensed to utilize this 50 MHz segment in the continental United States. That earth station is located in Tempe, Arizona. There are two additional licenses for NGSO MSS feeder link earth stations in Fairbanks, Alaska.[1] While two

[1] Hughes has been unable to ascertain whether any of the stations authorized for NGSO MSS feeder link operations in the 29.25-29.3 GHz portion of the 29.25-29.5 GHz band are actually in operation. The IBFS files for Call Signs

of the proposed 15 earth station antennas will be deployed in Arizona (one in Tucson and one in Flagstaff), they are not located within 100 miles of the Tempe earth station noted above, and none of the 15 earth stations will be in Alaska. To the extent necessary, Hughes will assign its Arizona earth station antennas transmit frequencies that are outside the 29.25-29.3 GHz segment or operate with polarization selections that are different from those utilized by the NGSO MSS feeder link licensee.[2] These unilateral measures by Hughes will ensure that the earth terminals proposed here operate compatibly with the authorized NGSO MSS feeder link stations. There are no NGSO MSS feeder link earth station licenses for the 29.3-29.5 GHz band.

Waiver Requests

Hughes requests a partial waiver of data submission requirements of Sections 25.115(e)/25.138(d) and (e) in order to allow for the measured data for each of the antenna types proposed in this application. Hughes also requests a waiver of Section 25.138 to the extent necessary to allow it to be blanket licensed for operations in the 28.6-29.1 GHz band.

Details of these waiver requests are included in Exhibit B of this application.

Secondary/Non-Interference Basis Operation in the 28.6-29.1 GHz and 18.8-19.3 GHz Bands

The Commission authorized Hughes Network Systems, LLC ("HNS") to operate the Jupiter 107W satellite (formerly known as SPACEWAY 4) for the provision of fixed-satellite service on a secondary basis in the 28.6-29.1 GHz band and on a non-conforming basis in the

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E050282, E060300, and E960131 (under SES-MOD-20060907-01680) do not contain the certifications of the completion of construction under Section 25.133(b) of the Commission's Rules, 47 C.F.R. § 25.133(b), that would have been due within one year of the 2006 and 2007 grants.

[2] These are the types of measures contemplated by the Commission for ensuring compatible operations between GSO FSS and NGSO MSS feeder link terminals. *See* 47 C.F.R. § 25.258(b); *Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.4-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use*, 17 FCC Rcd 24248, 24258-60 (¶24) (2002).

18.8-19.3 GHz band.[3] Hughes seeks that authority here, and will only include the Jupiter 107W as a point of communication for these frequency segments. Hughes will employ the technique described in the Jupiter 107W letter of intent submission and avoid using the primary non-geostationary frequencies during any times when there is insufficient angular separation between a non-geostationary satellite/associated earth station and Jupiter 107W and one of its associated earth stations. As HNS noted in the letter of intent submission, "there will be sufficient additional spectrum on [Jupiter 107W] to allow Hughes to dynamically shift operations out of the NGSO spectrum for the duration of any in-line events."[4]

Maximum EIRP Calculation

Both types of transmit antennas will be operated at an EIRP level not to exceed 88.7 dBW in the case of the 8.1 meter antenna and 84.4 dBW in the case of the 6.3 meter antenna.

Coordination Report

Annex 1 to this Exhibit A is a coordination report showing that operation of the proposed 6.3 meter and 8.1 meter antennas anywhere in the Continental United States would not present a coordination obstacle with any relevant fixed service/terrestrial stations in the 28.35-29.1 GHz and 29.25-29.5 GHz bands.

Radiation Hazard Analysis

Radiation hazard analyses were conducted in regard to the two antenna types proposed in this application. The analyses were carried out using the predicitve methodology identified in OET Bulletin 65 and the results are provided in Exhibits D1 and D2.

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[3] *See* Letter of Intent Authorization to Hughes Network Systems, LLC in File No. SAT-LOI-20091110-00119 (Stamp Grant, May 5, 2010, at 1) ("Jupiter 107W LOI").

[4] Application of Hughes Network Systems, LLC, File No. SAT-LOI-20091110-00119, at Letter of Intent Submission, p. 10.

The analyses were based on clear sky radiation levels for which a maximum RF power at the antenna flange of 200 Watts for the 8.1 meter antenna and 125 Watts for the 6.3 meter antenna. This is the maximum uplink power control power, which will only be used for very short periods of time during rain. During clear-sky operations, RF levels will be significantly lower.

Exhibits D1 and D2 show that the average exposure levels for the protection of the general public are met in the near field, transition field, far field as well as between the reflector and ground. As is typically the case with parabolic antennas, the average exposure level for the protection of the general public is exceeded between the feed horn and the reflector.

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 further ensure the protection of the general public, the antenna will be located either behind a fence or on the roof of a building. Technicians responsible for operating on these antenna are trained to shut down and lock out the transmitter before performing any maintenenace work.

ANNEX 1

Ka-Band Earth Station Network

Frequency Coordination Report

28-30 GHz

Prepared on Behalf of
Hughes Network
Systems

June 24, 2011

COMSEARCH®
A CommScope Company

Table of Contents

1. Summary of Results

In support of Hughes Network Systems' proposed earth station network transmitting at 28-30 GHz[1], Comsearch performed a frequency search considering all existing and proposed incumbent licenses within the coordination contours of the proposed Ka-Band CONUS network. The search results identified licensees in the common carrier fixed point-to-point microwave service, and local television transmission service. Prior notification letters were sent to the licensees and a copy of the notification data is provided in section three of this report. The earth station coordination will be finalized thirty days after the letters were sent out, on July 17, 2011.

To date, we have received no objections to the deployment of the earth stations.

[1] Hughes Network Systems earth stations will operate in the 28.35 – 29.1 GHz and 29.25 – 29.5 GHz portion of the Ka-Band.

2. Supplemental Showing

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, a proposed Ka-Band earth station network in CONUS was prior coordinated by Comsearch. The notification letters and datasheet for this earth station were sent to the following 28-30 GHz common carrier fixed microwave licensees on June 17, 2011. These licensees are authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a statewide or nationwide basis.

- Princeton Scientific Capital Management Corp.
- ACS Wireless License Sub, Inc (ACS Alaska)
- Alascom, Inc.
- AT&T California
- Bellsouth Telecommunications, Inc.
- Frontier West Virginia Inc.
- GTE Southwest Inc. dba Verizon Southwest
- Hawaiian Telcom
- Illinois Bell Telephone Company
- M.U.T. Licensing, LLC
- Michigan Bell Telephone Company
- Ohio Bell Telephone Company
- Princeton Scientific Capital Management Corp.
- Verizon California Inc.
- Verizon Delaware Inc.
- Verizon Maryland Inc.
- Verizon New Jersey Inc.
- Verizon New York Inc.
- Verizon Pennsylvania Inc.
- Verizon Virginia Inc.
- Verizon Washington DC Inc.
- Wisconsin Bell, Inc.

A notification letter and datasheet for the Ka-Band earth station network was also sent to the following local television transmission licensee on June 17, 2011. This licensee is authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis.

- Information Super Station, LLC

3. Earth Station Coordination Data

This section presents the data pertinent to the proposed Ka-Band earth station network in CONUS. This data was circulated to all incumbent licensees in the 28-30 GHz shared frequency ranges.

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5662 http://www.comsearch.com

Date: 06/16/2011
Job Number:

Administrative Information

Status	ENGINEER PROPOSAL
Call Sign	
Licensee Code	HUNESY
Licensee Name	HUGHES NETWORK SYSTEMS

Site Information

Areas of Operation:	CONUS

Link Information

Satellite Type	Geostationary
Mode	TO - Transmit-Only
Modulation	Digital
Satellite Arc	107.1° to 120° West Longitude
Minimum Elevation Angle	5°
Typical Antenna Centerline (AGL)	3.66 m / 12.0 ft

Antenna Information

All proposed parabolic antennas will meet FCC **Part 25.209** and comply with **ITU-R S.580** in regards to off-axis gain performance.

Projected Diameter/Gain		74 cm / 45.6.dBi 98 cm / 48.0 dBi 1.2 m / 49.8 dBi 1.8 m / 53.3 dBi 3.5 m / 58.9 dBi 6.3 m / 63.5 dBi 8.1 m / 65.7 dBi
Max Available RF Power at the flange (* per FCC 25.138)		-10.5 dBW/40 kHz *
Interference Objectives:	Long Term	-151.0 dBW/4 kHz 20%
	Short Term	-128.0 dBW/4 kHz 0.0025%

Frequency Information — Transmit 28 GHz

Emission / Frequency Range (MHz)	100KG7W to 250MG7W / 28.35 – 29.1GHz and 29.25 – 29.5 GHz

4. Contact Information

For questions or information regarding this Frequency Coordination Report, please contact:

Contact person: Joanna Lynch
Title: Manager, Spectrum & Data Solutions
Company: Comsearch
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