

w/corrections as of 06.01.10

S2753 SAT-LOI-20091110-00119
Hughes Network Systems, LLC
SPACEWAY 4

IB2009007087

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3060-0678

File # SAT-LOI-20091110-00119

Call Sign S2753 **Grant Date** 05/05/16
(or other Identifier)

Term Dates
From 05/05/16 **To:**

Approved: *Stephen J. Duall*
Stephen J. Duall
Chief, Satellite Policy Branch



APPLICATION FOR SATELLITE SPACE STATION AUTHORIZATIONS
FCC 312 MAIN FORM
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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
HNS, LLC - Ka-Band GSO FSS LOI - SPACEWAY 4 at 107.1 W.L.

1-8. Legal Name of Applicant

Name:	Hughes Network Systems, LLC	Phone Number:	301-428-5506
DBA Name:		Fax Number:	301-428-2802
Street:	11717 Exploration Lane	E-Mail:	Steven.Doiron@hughes.com
City:	Germantown	State:	MD
Country:	USA	Zipcode:	20876
Attention:	Mr. Steven Doiron		

Hughes Networks Systems, LLC
IBFS File No. SAT-LOI-20091110-00119
Call Sign: S2753
Attachment – Conditions for Letter of Intent
May 5, 2010

The request of Hughes Networks Systems, LLC (Hughes) for access to the market in the United States using a Ka-band geostationary satellite orbit (GSO) Fixed-Satellite Service (FSS) space station, SPACEWAY 4 (Call Sign S2753), operating under the authority of the United Kingdom, IBFS File No. SAT-LOI-20091110-00119, is GRANTED.¹ Accordingly, Hughes may access the market in the United States to provide FSS using the SPACEWAY 4 space station from the 107.1° WL orbital location operating in the 28.35-29.1 GHz and 29.25-30.0 GHz frequency bands (Earth-to-space) and the 18.3-19.3 GHz and 19.7-20.2 GHz frequency bands (space-to-Earth).² Hughes may also use the 18.8-19.3 GHz frequency band (space-to-Earth) on a non-interference basis. This grant of market access is subject to the technical specifications set forth in its Letter of Intent, the Commission's rules not waived herein, and the following conditions:

1. Hughes is not authorized to provide any Direct-to-Home (DTH) service, Direct Broadcast Satellite (DBS) or Digital Audio Radio Service (DARS) to, from, or within the United States.
2. Hughes shall maintain its SPACEWAY 4 space station within an east/west longitudinal station-keeping tolerance of ± 0.05 degrees of the 107.1° W.L. orbital location.
3. Operations on the SPACEWAY 4 space station shall comply with coordination agreements reached between the United Kingdom and other Administrations.
4. Hughes is also granted access for the following telemetry, tracking, and command operations for the SPACEWAY 4 space station: command/ranging links (for both transfer orbit and emergency, and on-station) using one megahertz of bandwidth, with either right-hand or left-hand circular polarizations, at each of the uplink center frequencies 28351 MHz and 28353 MHz; telemetry/ranging links (for both transfer orbit and emergency, and on-station) using one megahertz of bandwidth at each of the downlink center frequencies 19700.5 MHz (left-hand circular polarization) and 19702.5 MHz (right-hand circular polarization) and beacon links using one kilohertz of bandwidth at the downlink center frequency 20199.5 MHz (right-hand circular polarization) and the uplink center frequency 29998.0 MHz (right-hand or left-hand circular polarization).
5. Hughes' request for a waiver of Footnote NG165 to Section 2.106 of the United States Table of Frequency Allocations (Table of Allocations), 47 C.F.R. § 2.106, to permit Hughes to operate its GSO FSS SPACEWAY 4 space station in the 18.8-19.3 GHz (space-to-Earth) frequency band on a non-conforming basis is GRANTED. In the United States, the 18.8-19.3 GHz frequency band is designated for non-Federal, non-geostationary satellite orbit (NGSO) FSS operations on a primary basis, with no designation for non-Federal GSO FSS operations, and is allocated to Federal GSO and NGSO FSS operations on a primary basis. As a non-conforming user, Hughes must accept any interference from any non-Federal NGSO FSS system, any Federal GSO FSS or NGSO FSS system, or any grandfathered co-primary fixed service stations authorized to use the 18.8-19.3 GHz frequency band. Also, so as not to

¹ Hughes' application for SPACEWAY 4 was placed on Public Notice on January 15, 2010. Policy Branch Information, *Public Notice*, Report No. SAT-00659 (rel. Jan. 15, 2010). No comments were filed on the SPACEWAY 4 application.

² At present, the satellite has not been launched and no applications have been filed by earth station operators seeking authority to communication with the SPACEWAY 4 space station. In the event an earth station operator files an application to communicate with the SPACEWAY 4 space station using the 29.25-29.30 GHz band, it must demonstrate compliance with Section 25.203(k) of the Commission's rules. 47 C.F.R. § 25.203(k).

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constrain the development of currently authorized and future NGSO systems in the 18.8-19.3 GHz band, Hughes must operate in accordance with the technical and operational parameters specified in its Letter of Intent and the Amendment thereto. In addition, Hughes shall not cause harmful interference to any authorized non-Federal NGSO FSS system, any authorized Federal GSO FSS or NGSO FSS system, or any grandfathered co-primary fixed service stations, and shall immediately cease operations upon notification of such harmful interference resulting from its operations.

6. Hughes must coordinate its space-to-Earth operations in the 18.3-18.8 GHz and 19.7-20.2 GHz frequency bands with the U.S. Federal systems, including Federal operations to earth stations in foreign countries, in accordance with footnote US 334 to the United States Table of Frequency Allocations, 47 C.F.R. § 2.106. In addition to meeting the terms of the coordination agreement, the non-conforming Hughes GSO operations at 18.8-19.3 GHz, shall not cause harmful interference to, nor claim protection from, present and future Federal, non-Federal, GSO and NGSO systems or any non-conforming services previously authorized on a non-harmful interference basis.

7. As stated in its application, the power flux-density (PFD) at the Earth's surface produced by emissions from the SPACEWAY 4 space station (Call Sign S2753) for all atmospheric conditions, and for all methods of modulation, in the 18.3-19.3 GHz and 19.7-20.2 GHz frequency bands (space-to-Earth), shall not exceed a level of -119 dBW/m²/MHz at any angle of arrival.

8. Hughes is required to operate its SPACEWAY 4 space station in a manner consistent with the PFD requirements contained in: (1) 47 C.F.R. § 25.208(d) and footnote US255 to the Table of Frequency Allocations, 47 C.F.R. § 2.106, for operations in the 18.6-18.8 GHz frequency band; (2) 47 C.F.R. § 25.208(c) for operations in the 18.3-18.8 GHz frequency band; (3) 47 C.F.R. § 25.138(a)(6) for operations in the 18.3-18.8 GHz and 19.7-20.2 GHz frequency bands; and (4) Article 21.16 of the International Telecommunication Union (ITU) Radio Regulations for international operations in any of the above-referenced frequency bands.

9. Operations of the SPACEWAY 4 space station in the 18.3-18.8 GHz band (space-to-Earth) are not entitled to protection from co-primary terrestrial services until the period during which terrestrial Fixed Service stations remain co-primary has expired. 47 C.F.R. § 25.145

10. Hughes' request for a partial waiver of Section 25.114(c)(4)(iii) of the Commission's rules is GRANTED. Section 25.114(c)(4)(iii) of our rules requires applicants to identify which antenna beams are connected or switchable to each transponder and TT & C function. In its application, Hughes states that its SPACEWAY 4 satellite network has fifteen primary gateways and two backup gateways.³ Hughes has provided information on the interconnectivity between the fifteen primary gateway beams, for a total of 500 interconnections. Although we generally require applicants to provide technical information regarding interconnectivity for all antenna beams in its systems, Hughes has stated that providing information on the remaining beams in its system would be unduly burdensome. Hughes also states that such information is unnecessary for purposes of beam interconnectivity analysis because these beams are associated with spare/redundant capacity associated with two backup gateways.⁴ In order to show the beam interconnectivity for the two backup gateway beams in the Schedule S form, there would be 1,000 additional beam interconnections. We have reviewed the information Hughes provided in its

³ SAT-LOI-20091110-00119, Narrative at 13.

⁴ SAT-LOI-20091110-00119, Narrative at 13-14.

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application and determined that it is sufficient to allow us to analyze Hughes' beam capacity. Accordingly, we grant Hughes request for partial waiver of 25.114(c)(4)(iii) of our rules. 47 C.F.R. § 25.114(c)(4)(iii). If Hughes is required to bring into use the spare/redundant capacity of the two backup gateways, Hughes must file with the Commission within 10 business days the interconnectivity information for the two backup gateways.

11. Hughes' grant of market access for the SPACEWAY 4 space station at the 107.1° W.L. orbital location will be null and void with no further action on the Commission's part if the space station is not constructed, launched, and placed into operation in accordance with the technical parameters, terms and conditions of this authorization by these specified time periods following the date of authorization:

- a. Enter into a binding contract for construction within one year (May 5, 2011);
- b. Complete the Critical Design Review within two years (May 5, 2012);
- c. Commence construction within three years (May 5, 2013);
- d. Launch and begin operations within five years (May 5, 2015); and
- e. Hughes must file a bond with the Commission in the amount of \$3 million, pursuant to the procedures set forth in 47 C.F.R. § 25.165, within 30 days of the date of this grant (June 4, 2010).

12. Hughes is afforded 30 days from the date of this action to decline this authorization, as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization, as conditioned.

13. This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately. Petitions for Reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106 and 1.115 may be filed within of the date of the public notice indicating that this action was taken.

w/corrections as of 06.01.10



*subject to conditions

File # SAT-LOI-20091110-00119

Call Sign S2753 Grant Date 05/05/10
(or other identifier)

Term Dates
From 05/05/10 To: _____

Approved: Stephen J. Duall

Stephen J. Duall
Chief, Satellite Policy Branch

9-16. Name of Contact Representative

Name:	Stephen D. Baruch	Phone Number:	(202) 416-6782
Company:	Lerman Senter PLLC	Fax Number:	(202) 293-7783
Street:	2000 K Street, N.W. Suite 600	E-Mail:	sbaruch@lermansenter.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20006 -1809
Attention:		Relationship:	Legal Counsel

CLASSIFICATION OF FILING

17. Choose the buttonnext to the classification that applies to thisfiling for both questions a. and b. Choose only one for 17a and only one for 17b.

a.

(N/A) a1. Earth Station

a2. Space Station

b.

b1. Application for License of New Station (N/A) b2. Application for Registration of New Domestic Receive-Only Station (N/A) b3. Amendment to a Pending Application (N/A) b4. Modification of License or Registration (N/A) b5. Assignment of License or Registration (N/A) b6. Transfer of Control of License or Registration (N/A) b7. Notification of Minor Modification (N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite

b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States

b10. Replacement Satellite Application - no new frequency bands

b11. Replacement Satellite Application - new frequency bands (Not eligible for streamlined processing)

b12. Petition for Declaratory Ruling to be Added to the Permitted List (N/A) b13. Other (Please specify)

<p>17c. Is a fee submitted with this application? <input type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114). <input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee <input checked="" type="radio"/> Other (please explain): Letter of Intent – No Fee Required</p>	<p>17c. Fee Classification BNY – Space Station (Geostationary)</p>
<p>18. If this filing is in reference to an existing station, enter: (a) Call sign of station: Not Applicable</p>	<p>19. If this filing is an amendment to a pending application enter: (a) Date pending application was filed: Not Applicable (b) File number of pending application: Not Applicable</p>

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:

- a. Fixed Satellite
- b. Mobile Satellite
- c. Radiodetermination Satellite
- d. Earth Exploration Satellite
- e. Direct to Home Fixed Satellite
- f. Digital Audio Radio Service
- g. Other (please specify)

21. STATUS: Choose the button next to the applicable status. Choose only one.

Common Carrier Non-Common Carrier

22. If earth station applicant, check all that apply.

Not Applicable

23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:

Connected to a Public Switched Network Not connected to a Public Switched Network N/A

24. FREQUENCY BAND(S): Place an "X" in the box(es) next to all applicable frequency band(s).

a. C-Band (4/6 GHz) b. Ku-Band (12/14 GHz)

c. Other (Please specify upper and lower frequencies in MHz.)

Frequency Lower: 18300.0000 Frequency Upper: 30000.0000 (Please specify additional frequencies in an attachment)

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- (N/A) a. Fixed Earth Station
- (N/A) b. Temporary-Fixed Earth Station
- (N/A) c. 12/14 GHz VSAT Network
- (N/A) d. Mobile Earth Station
- e. Geostationary Space Station.
- f. Non-Geostationary Space Station
- g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY: Not Applicable

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an "X" in the box(es) next to all that apply.) Not Applicable

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. §§ 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.

Yes No

ALIEN OWNERSHIP

Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30-34.

<p>29. Is the applicant a foreign government or the representative of any foreign government?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>
<p>30. Is the applicant an alien or the representative of an alien?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A</p>
<p>31. Is the applicant a corporation organized under the laws of any foreign government?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A</p>
<p>32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A</p>
<p>33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A</p>
<p>34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.</p>	

Exhibit 33

BASIC QUALIFICATIONS

<p>35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.</p>	<p style="text-align: center;"> <input checked="" type="radio"/> Yes <input type="radio"/> No Exhibit 35 </p>
<p>36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.</p>	<p style="text-align: center;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<p>37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.</p>	<p style="text-align: center;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<p>38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances</p>	<p style="text-align: center;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<p>39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhibit, an explanation of the circumstances.</p>	<p style="text-align: center;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>

<p>40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.</p>	<p style="text-align: right;">Exhibit 40</p>
<p>41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; for these purposes.</p>	<p style="text-align: right;">Yes <input checked="" type="radio"/> No <input type="radio"/></p>
<p>42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.</p>	<p style="text-align: right;">Yes <input checked="" type="radio"/> No <input type="radio"/></p>
<p>42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station? United Kingdom</p>	

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

Letter of Intent seeking to use a satellite authorized by the United Kingdom to access the United States market using the Ka-band at the 107.1 degrees W.L. orbital location.

Letter of Intent

43a. Geographic Service Rule Certification

By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.

A

By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.

B

By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.

C

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Governmental Entity
- Other (please specify) Limited Liability Company

45. Name of Person Signing

Steven Doiron

46. Title of Person Signing

Senior Director, Regulatory Affairs

47. Please supply any need attachments.

1: Exhibit 24

2:

3:

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT
(U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION
(U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

Completed Schedule S

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.