

S2253 SAT-MOD-20181231-00095 IB2018010725  
Intelsat License LLC



File # SAT-MOD-20181231-00095

Call Sign S2253 Grant Date 4/16/2019  
(or other identifier)

From: 4/16/2019 Term Dates To: 1-2/31/2022 Approved by OMB 3060-0678

Approved: Jose Albuquerque  
Chief, Satellite Division

\* With conditions

Date & Time Filed: Dec 31 2018 3:46:04:856PM  
File Number: SAT-MOD-20181231-00095

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD – MAIN FORM	FCC Use Only
FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	

APPLICANT INFORMATION


Enter a description of this application to identify it on the main menu:

Modification of Authorization to Redeploy Galaxy 11 (S2253) to 93.1 W.L., Add New Frequencies, and Extend License Term

1-8. Legal Name of Applicant

<b>Name:</b>	Intelsat License LLC	<b>Phone Number:</b>	703-559-7848
<b>DBA Name:</b>		<b>Fax Number:</b>	703-559-8539
<b>Street:</b>	c/o Intelsat US LLC 7900 Tysons One Place	<b>E-Mail:</b>	susan.crandall@intelsat.com
<b>City:</b>	McLean	<b>State:</b>	VA
<b>Country:</b>	USA	<b>Zipcode:</b>	22102 -5972
<b>Attention:</b>	Susan H. Crandall		

**ATTACHMENT TO GRANT**  
**Intelsat License LLC**  
**IBFS File No. SAT-MOD-20181231-00095**

<b>IBFS File No(s):</b>	SAT-MOD-20181231-00095	<p><b>GRANTED – With Conditions</b></p>  <p><b>International Bureau Satellite Division</b></p>
<b>Licensee/Grantee:</b>	Intelsat License LLC	
<b>Call Sign:</b>	S2253	
<b>Satellite Name:</b>	Galaxy 11	
<b>Orbital Location: (required station-keeping tolerance)</b>	93.1 ° W.L. (+/- 0.05 degrees east/west) <sup>1</sup>	
<b>Administration:</b>	United States of America	
<b>Nature of Service:</b>	Fixed Satellite Service	
<b>Scope of Grant:</b>	Modification of the authorization for the Galaxy 11 space station to specify operations at the 93.1° W.L. orbital location, instead of Galaxy 11's currently authorized location of 44.9° E.L. and to extend its license term to December 31, 2022. <sup>2</sup>	
<b>Previous Grant(s):</b>	<p>Special temporary authority for a period of 60 days to conduct telemetry, tracking and control operations necessary to drift Galaxy 11 from the 44.9° E.L. orbital location to the 93.1° W.L. orbital location, IBFS File No. SAT-STA-20190204-00004 (granted Feb. 19, 2019).</p> <p>Modification of the authorization for the Galaxy 11 space station to operate at the 44.9° E.L. orbital location, instead of its previously authorized orbital location of 55.6° W.L., IBFS File No. SAT-MOD-20160803-00077 (granted Nov. 17, 2016).</p> <p>Modification of the authorization for the Galaxy 11 space station to operate at the 55.6° W.L. orbital location, instead of its previously authorized orbital location of 55.5° W.L., IBFS File Nos. SAT-MOD-20121018-00184, SAT-AMD-20140429-00042, SAT-AMD-20140617-00069 (granted Oct. 30, 2014).</p> <p>Modification of the authorization for the Galaxy 11 space station to operate at the 55.6° W.L. orbital location, instead of its previously authorized orbital location of 32.8° E.L., IBFS File No. SAT-MOD-20101102-00224 (granted Mar. 8, 2011; corrected Apr. 7, 2011).</p> <p>Modification of the authorization for the Galaxy 11 space station to operate at the 32.8° E.L. orbital location, instead of its previously authorized orbital location of 91.0° W.L., IBFS File No. SAT-MOD-20080225-00051 (granted July 22, 2008).</p> <p>Order and Authorization to permit service between U.S. domestic points using frequencies in the 10.95-11.2 GHz and the 11.45-11.7 GHz bands on an unprotected, non-interference basis, IBFS File No. SAT-MOD-20050325-00073; DA 05-2444 (rel. Sept. 15, 2005).</p> <p>Order and Authorization granting authority to launch and operate Galaxy 11 at 91° W.L.,</p>	

<sup>1</sup> Galaxy 25 (call sign S2154) is currently operating at 93.1 W.L. in the C- (3700-4200 MHz/5925-6425 MHz) and Ku- (11.7-12.2 GHz, 14.0-14.5 GHz) bands. Intelsat states that Galaxy 25 will be redeployed to a new location in 2019 after the arrival of Galaxy 11 to 93.1 W.L. Legal Narrative at 3.

<sup>2</sup> On February 11, 2019, Intelsat filed a letter supplementing its request for Galaxy 11. In this letter, Intelsat confirmed that Galaxy 11 is functioning normally, despite a position-control anomaly that occurred in January 2019, which has been corrected. In addition, Intelsat revised its requested license term extension from through July 2025 to through December 2022. See Letter from Cynthia J. Grady, Senior Counsel for Intelsat US LLC, to Marlene H. Dortch, Secretary, FCC (dated Feb. 11, 2019) (Feb. 11 Letter).

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	IBFS File Nos. SAT-LOA-19970829-00079 and SAT-AMD-19990615-00067; DA 00-412 (rel. Feb. 25, 2000).
<b>Service Area(s):</b>	North and South America. See Engineering Statement at 1.
<b>Frequencies:</b>	3700-4200 MHz (space-to-Earth) 5925-6425 MHz (Earth-to-space) 10.95-11.2 GHz (space-to-Earth) 11.7-12.2 GHz (space-to-Earth) 13.75-14.5 GHz (Earth-to-space)  Telemetry, Tracking & Command center frequencies: 14000.5 MHz and 14498.5 MHz (Earth-to-space) 11701 MHz and 11702 MHz (space-to-Earth)

**Unless otherwise specified herein, operations under this grant must comport with the legal and technical specifications set forth by the applicant or petitioner and with Federal Communication Commission's rules not waived herein. This grant is also subject to the following conditions:**

1. Intelsat must prepare the necessary information, as may be required for submission to the International Telecommunication Union (ITU), to initiate and complete the advance publication, international coordination, due diligence, and notification process for this space station, in accordance with the ITU Radio Regulations. Intelsat shall be responsible for all cost-recovery fees associated with ITU filings. No protection from interference caused by radio stations authorized by other administrations is guaranteed unless coordination and notification procedures are timely completed or, with respect to individual administrations, by successfully completing coordination agreements. Any radio station authorization for which coordination has not been completed may be subject to additional terms and conditions as required to effect coordination of the frequency assignments with other administrations. *See* 47 CFR § 25.111(b).
2. Intelsat must maintain full operational control of the Galaxy 11 space station at all times.
3. In connection with the provision of service in any particular country, Intelsat is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country.
4. Intelsat must operate Galaxy 11 at the 93.1° W.L. orbital location in compliance with all existing or future coordination agreements for this location.
5. While at the 93.1° W.L. location, Intelsat must maintain the Galaxy 11 spacecraft with an east/west longitudinal station-keeping tolerance of +/- 0.05 degrees.
6. The United States remains the licensing administration of the Galaxy 11 spacecraft and its communications payloads for purposes of International Telecommunication Union (ITU) Radio Regulation 18.1 and is the administration responsible for the operations of Galaxy 11. Within 30 days of this grant, Intelsat must provide to the FCC information sufficient for the United States to make a filing with the ITU for the operations Galaxy 11 at the 93.1° W.L. orbital position in the 10.95-11.2 GHz and 13.75-14.0 GHz bands. At this time, the U.S. Administration does not consent to use of the Galaxy 11 satellite by the German Administration for claiming bringing into use orbital assignment at 93.1° W.L. in the 10.95-11.2 GHz and 13.75-14.0 GHz bands.
7. The operations of Galaxy 11 and associated earth stations must comport with the applicable uplink and downlink limits in 47 CFR § 25.140(a)(3) of the Commission's rules, unless Intelsat coordinates any non-conforming operations with the operations of U.S.-licensed geostationary orbit space stations within 6 degrees of the 93.1° W.L. orbital location. Intelsat must also comport with the maximum power limits indicated in its application. Non-conforming operation must also be coordinated with respect to those operations of non-U.S.-licensed space stations within 6 degrees of 93.1° W.L. involving approved

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communications with U.S.-licensed earth stations.

8. Intelsat's use of the 10.95-11.2 GHz frequency band is subject to Footnote US211 to the Table of Frequency Allocations, 47 C.F.R. § 2.106, US211, which urges applicants for airborne or space station assignments to take all practicable steps to protect radio astronomy observations in the adjacent bands from harmful interference, consistent with footnote US74. Although not a condition to this authorization, we also note that RAS frequently makes use of observations (passive) in bands not allocated to the RAS service. This practice is a result of scientifically valuable signals being subject to the Doppler Effect and shifted in frequency outside radio astronomy-allocated bands. For assistance with coordination or information about RAS sites, please contact the NSF Spectrum Management Unit: [esm@nsf.gov](mailto:esm@nsf.gov).
9. Intelsat's request for waiver of footnote NG52 of the U.S. Table of Frequency Allocations, 47 CFR § 2.106, NG52,<sup>3</sup> to use the 10.95-11.2 GHz band to offer domestic services on an unprotected, non-harmful interference basis in the United States IS GRANTED, as conditioned. We find that waiver does not undermine the purpose of the rule because the waiver involves only earth stations that are receive-only in the 10.95-11.2 GHz frequency band and thus are not capable of causing interference into fixed stations operating in this band. Furthermore, because Intelsat has agreed to accept any level of interference from fixed stations into receive earth stations in this band, fixed station operators will not be required to coordinate their station operations with Intelsat's earth stations' operations.<sup>4</sup> Under these circumstances, we determine that an additional coordination burden is not placed upon fixed station operators and their ability to expand service in the future would not be restricted in any manner.<sup>5</sup>
  - a. Intelsat's space-to-Earth transmissions in the 10.95-11.2 GHz band are to be conducted without interference protection from fixed stations to earth stations receiving these transmissions. This applies to fixed stations to which frequencies in the 10.95-11.2 GHz band have either been already assigned, or to which frequencies in the 10.95-11.2 GHz band may be assigned at a later date.
  - b. Intelsat must inform its customers, in writing, including end-users receiving service from resellers accessing capacity on the Galaxy 11 space station, that domestic service in the 10.95-11.2 GHz band is being provided on an unprotected basis, and that the potential exists that future licensed fixed stations may cause harmful interference to unprotected receive earth stations in the 10.95-11.2 GHz band.
10. In the 13.75-14.0 GHz band (Earth-to-space), receiving space stations in the Fixed-Satellite Service shall not claim protection from radiolocation transmitting stations operating in accordance with the United States Table of Frequency Allocations.
11. Pursuant to footnote US337 of the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, US337, any earth station in the United States and its possessions communicating with the Galaxy 11 space station in the 13.75-14.0 GHz band (Earth-to-space) is required to coordinate through National Telecommunications and Information Administration's (NTIA's) Interdepartment Radio Advisory Committee's (IRAC's) Frequency Assignment Subcommittee (FAS) to minimize interference to the National Aeronautics and Space Administration Tracking and Data Relay Satellite System, including

<sup>3</sup> Intelsat also seeks to continue previously-approved waivers of Sections 25.114(d)(14)(ii) and 25.283(c). See Legal Narrative at 5. These rules relate to post-mission disposal and, therefore, we find it unnecessary to address this request. The waivers have already been granted and a change in satellite orbital location does not affect Galaxy 11's post-mission disposal plans.

<sup>4</sup> See Legal Narrative at 6-7.

<sup>5</sup> *PanAmSat Licensee Corp. Application for Authority to Use the Extended Ku-Band Frequencies for Domestic Service*, Order and Authorization, 20 FCC Rcd 14642, 14646 (Sat. Div., Int'l Bur., 2005).

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manned space flight.

12. Operations of any earth station in the United States and its possessions communicating with the Galaxy 11 space station in the 13.75-14.0 GHz band (Earth-to-space) shall comply with footnote US356 to United States Table of Frequency Allocations, 47 C.F.R. § 2.106, US356, which specifies a mandatory minimum antenna diameter of 4.5 meters and recommended minimum and maximum equivalent isotropically radiated powers (EIRP). Operations of any earth station located outside the United States and its possessions communicating with the Galaxy 11 space station in the 13.75-14.0 GHz band (Earth-to-space) shall be consistent with footnote 5.502 to the ITU Radio Regulations, which allows a minimum antenna diameter of 1.2 meters for earth stations of a geostationary satellite orbit network and specifies mandatory power limits.
13. Operations of any earth station in the United States and its possessions communicating with the Galaxy 11 space station in the 13.75-14.0 GHz band (Earth-to-space) shall comply with footnote US357 to United States Table of Frequency Allocations, 47 C.F.R. § 2.106, US357, which specifies that a required maximum EIRP density of emissions not exceeded 71 dBW in any 6 MHz band for communications with a space station in geostationary-satellite orbit. Operations of any earth station located outside the United States and its possessions communicating with the Galaxy 11 space station in the 13.75-14.0 GHz band (Earth-to-space) shall comply with footnote 5.503 to the ITU Radio Regulations, which specifies a required maximum EIRP density of emissions (limit is dependent on antenna diameter) for communications with a space station in geostationary-satellite orbit.
14. Pursuant to footnote US342 of the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, services operating in the 14.47-14.50 GHz band shall take all practicable steps to protect the radio astronomy service from harmful interference.
15. The license term for Galaxy 11 (Call Sign S2253) is extended from January 30, 2019, to December 31, 2022.


Licensee/grantee is afforded thirty (30) days from the date of release of this action to decline the grant as conditioned. Failure to respond within this period will constitute formal acceptance of the grant as conditioned.

This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 2.106, 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, 1.115, may be filed within 30 days of the date of the public notice indicating that this action was taken.

Station licenses are subject to the conditions specified in Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(h).

<b>Action Date:</b>	April 16, 2019	
<b>Term Dates</b>	<b>From:</b> April 16, 2019	<b>To:</b> December 31, 2022

**Approved:**

  
 Jose P. Albuquerque  
 Chief, Satellite Division

9-16. Name of Contact Representative

<b>Name:</b>	Jennifer D. Hindin	<b>Phone Number:</b>	202-719-4975
<b>Company:</b>	Wiley Rein LLP	<b>Fax Number:</b>	202-719-7049
<b>Street:</b>	1776 K Street NW	<b>E-Mail:</b>	jhindin@wileyrein.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20006-
<b>Attention:</b>		<b>Relationship:</b>	Legal Counsel

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

- a1. Earth Station
- a2. Space Station

- (N/A) b1. Application for License of New Station
- (N/A) b2. Application for Registration of New Domestic Receive-Only Station
- b3. Amendment to a Pending Application
- b4. Modification of License or Registration
- b5. Assignment of License or Registration
- b6. Transfer of Control of License or Registration
- b7. Notification of Minor Modification
- (N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
- (N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
- (N/A) b10. Other (Please specify)
- (N/A) b11. Application for Earth Station to Access a Non-U.S. satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States
- (N/A) b12. Application for Database Entry
- b13. Amendment to a Pending Database Entry Application
- b14. Modification of Database Entry

17c. Is a fee submitted with this application?

- If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).  
 Governmental Entity     Noncommercial educational licensee  
 Other (please explain):

17d.

Fee Classification BFY – Space Station Modification (Geostationary)

18. If this filing is in reference to an existing station, enter:

(a) Call sign of station:  
S2253

19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:

(a) Date pending application was filed:

(b) File number:

SATMOD2016080300077

TYPE OF SERVICE

<p>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:</p> <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> a. Fixed Satellite</li><li><input type="checkbox"/> b. Mobile Satellite</li><li><input type="checkbox"/> c. Radiodetermination Satellite</li><li><input type="checkbox"/> d. Earth Exploration Satellite</li><li><input type="checkbox"/> e. Direct to Home Fixed Satellite</li><li><input type="checkbox"/> f. Digital Audio Radio Service</li><li><input type="checkbox"/> g. Other (please specify)</li></ul>	
<p>21. STATUS: Choose the button next to the applicable status. Choose only one.</p> <p><input type="radio"/> Common Carrier    <input checked="" type="radio"/> Non-Common Carrier</p>	<p>22. If earth station applicant, check all that apply.</p> <ul style="list-style-type: none"><li><input type="checkbox"/> Using U.S. licensed satellites</li><li><input type="checkbox"/> Using Non-U.S. licensed satellites</li></ul>
<p>23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:</p> <p><input type="radio"/> Connected to a Public Switched Network    <input type="radio"/> Not connected to a Public Switched Network    <input checked="" type="radio"/> N/A</p>	
<p>24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).</p> <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> a. C-Band (4/6 GHz)    <input checked="" type="checkbox"/> b. Ku-Band (12/14 GHz)</li><li><input type="checkbox"/> c. Other (Please specify upper and lower frequencies in MHz.)</li></ul> <p>Frequency Lower:    Frequency Upper: (Please specify additional frequencies in an attachment)</p>	



TYPE OF STATION

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

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

26. TYPE OF EARTH STATION FACILITY:

- Transmit/Receive     Transmit-Only     Receive-Only     N/A

"For Space Station applications, select N/A."

## PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

- a — authorization to add new emission designator and related service
- b — authorization to change emission designator and related service
- c — authorization to increase EIRP and EIRP density
- d — authorization to replace antenna
- e — authorization to add antenna
- f — authorization to relocate fixed station
- g — authorization to change frequency(ies)
- h — authorization to add frequency
- i — authorization to add Points of Communication (satellites & countries)
- j — authorization to change Points of Communication (satellites & countries)
- k — authorization for facilities for which environmental assessment and radiation hazard reporting is required
- l — authorization to change orbit location
- m — authorization to perform fleet management
- n — authorization to extend milestones
- o — Other (Please specify)

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.

29. Is the applicant a foreign government or the representative of any foreign government?  Yes  No

30. Is the applicant an alien or the representative of an alien?  Yes  No  N/A

31. Is the applicant a corporation organized under the laws of any foreign government?  Yes  No  N/A

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?  Yes  No  N/A

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?

Yes  No  N/A

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.

#### BASIC QUALIFICATIONS

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.

Yes  No

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.

Yes  No

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.

Yes  No

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

Yes  No

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.

Yes  No

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.

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.

Yes  No

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.

Yes  No

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?

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.)

Intelsat License LLC seeks authority to relocate Galaxy 11 to 93.1 WL, extend the satellite license term through July 2025, and add new frequencies.

Legal Narrative

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

Engineering Stmt

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)

45. Name of Person Signing  
Susan H. Crandall

-->

46. Title of Person Signing  
Assoc. General Counsel, Intelsat US LLC

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).



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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.**

Before the  
**Federal Communications Commission**  
Washington, DC 20554

In the Matter of

Intelsat License LLC

Application to Modify Authorization for  
Galaxy 11 (S2253)

File No. SAT-MOD- \_\_\_\_\_

**APPLICATION OF INTELSAT LICENSE LLC**  
**TO MODIFY AUTHORIZATION FOR GALAXY 11**

Intelsat License LLC (“Intelsat”), pursuant to Section 25.117 of the rules of the Federal Communications Commission (“Commission” or “FCC”),<sup>1</sup> hereby seeks to modify the authorization for the Galaxy 11 satellite (Call Sign S2253). Specifically, this modification application seeks authority to relocate Galaxy 11 to, and operate the satellite at, 93.1° W.L. in inclined orbit, and to extend the satellite’s license term through July 2025. Intelsat also seeks authority to operate Galaxy 11 in 10950-11200 MHz and 13750-14000 MHz at 93.1° W.L., pursuant to an International Telecommunication Union (“ITU”) satellite network filing by the German Administration. Intelsat requests that the Commission state its non-objection to the use of Galaxy 11 to bring into use and operate against the ITU filings of the German Administration for the 10950-11200 MHz and 13750-14000 MHz bands at the nominal 93° W.L. orbital location.

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<sup>1</sup> 47 C.F.R. § 25.117.

In accordance with the requirements of the Commission's rules,<sup>2</sup> this application has been filed electronically as an attachment to FCC Form 312. Pursuant to Section 25.114 of the Commission's rules,<sup>3</sup> Intelsat provides the technical information relating to the proposed modification on Schedule S and in narrative form, as contained in the attached Engineering Statement.

Consistent with Section 1.62 of the Commission's rules,<sup>4</sup> Intelsat will continue to operate the Galaxy 11 satellite pursuant to the terms and conditions of its expiring license until such time as the Commission makes a determination with respect to this request.

**I. REQUEST TO RELOCATE GALAXY 11 TO 93.1° W.L.**

Intelsat requests authority to drift Galaxy 11 to, and operate the satellite in inclined orbit at, 93.1° W.L. Galaxy 11 is currently operating at 44.9° E.L.<sup>5</sup> Galaxy 11 will be redeployed to 93.1° W.L. upon successful transfer of traffic to Intelsat 38 and receipt of Commission approval.<sup>6</sup> Galaxy 11 is expected to complete traffic transfer and begin drifting to 93.1° W.L. in February 2019, and Intelsat expects the drift to take approximately six months. Additionally, Intelsat expects to begin inclined orbit operations during the satellite's drift to 93.1° W.L.

During the drift of Galaxy 11, Intelsat will utilize only the satellite's telemetry, tracking,

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<sup>2</sup> 47 C.F.R. § 25.117(b), (c).

<sup>3</sup> 47 C.F.R. § 25.114.

<sup>4</sup> 47 C.F.R. § 1.62 (permitting continued operations by a licensee where there is a proper and timely pending application for renewal of the license).

<sup>5</sup> See *Policy Branch Information; Actions Taken*, Report No. SAT-01201, File No. SAT-MOD-20160803-00077 (Nov. 18, 2016) (Public Notice).

<sup>6</sup> Intelsat 38 is a Ku-band satellite authorized by Azerbaijan and is also known as Azerspace-2.

and command (“TT&C”) frequencies and will follow industry practices for coordinating TT&C transmissions during the relocation process. The satellite’s specific TT&C frequencies are as follows: 14000.5 MHz and 14498.5 MHz in the uplink; and 11701.0 MHz and 11702.0 MHz in the downlink.

Galaxy 25 (Call Sign S2154) is currently operating at 93.1° W.L.<sup>7</sup> and will be redeployed to a new location in 2019. Once located at 93.1° W.L., Galaxy 11 will operate on the communications frequencies identified in the chart below. The chart also lists the frequencies currently used by Galaxy 25 at the nominal 93.1° W.L. orbital location.

	Galaxy 11	Galaxy 25
3700-4200 MHz	✓	✓
5925-6425 MHz	✓	✓
10950-11200 MHz	✓	
11700-12200 MHz	✓	✓
13750-14000 MHz	✓	
14000-14500 MHz	✓	✓

## II. REQUEST FOR EXTENSION OF LICENSE TERM

Intelsat seeks to extend the license term for the Galaxy 11 satellite through July 2025. Based on a license extension granted in 2014, the license term for Galaxy 11 will expire on January 30, 2019.<sup>8</sup> This expiration date is well before the expected end of service life of the satellite, which was most recently estimated to be the end of 2025, assuming the beginning of

<sup>7</sup> See *Policy Branch Information; Actions Taken*, Report No. SAT-01203, File No. SAT-MOD-20161004-00097 (Dec. 9, 2016) (Public Notice).

<sup>8</sup> See *Policy Branch Information; Actions Taken*, Report No. SAT-01050, File No. SAT-MOD-20121018-00184, SAT-AMD-20140429-00042, SAT-AMD-20140617-00069 (Oct. 31, 2014) (Public Notice).

inclined-orbit operation in February 2019. To the extent the satellite's projected end of service life is extended in the future, Intelsat will seek an additional extension of the license term.

### **III. PUBLIC INTEREST SHOWING**

Grant of this modification application to relocate and extend the license term of Galaxy 11 is in the public interest because it will allow Intelsat to provide service continuity at the nominal 93.1° W.L. orbital location well beyond the current license term's January 30, 2019 expiration date.

Grant of this relocation request will not result in increased risk of harmful interference. As noted above, Intelsat will operate only at the above-listed TT&C frequencies during the drift and will coordinate its TT&C transmissions with operators of satellites in the drift path. Should any interference occur during the drift, Intelsat will take all reasonable steps to eliminate such interference. Once on station at 93.1° W.L., Intelsat will operate Galaxy 11's communications payload and TT&C frequencies in conformance with existing coordination agreements and the FCC's rules governing operations vis-à-vis adjacent locations.

Additionally, grant of this modification application to extend the license term will serve the public interest by enabling customers to receive service from Galaxy 11 and by maximizing the use of on-orbit resources. The Galaxy 11 satellite's subsystems and solar panels are functioning normally, and there are no single points of failure on Galaxy 11 that would result in an inability to de-orbit the satellite. Additionally, the satellite's TT&C functions are operating normally and most of the payload is operational. Extending the license term will promote the continued efficient use of orbital resources and is consistent with recent decisions by the Commission to extend satellite license terms.<sup>9</sup>

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<sup>9</sup> See e.g., *Policy Branch Information; Actions Taken*, Report No. SAT-01156, File No. SAT-MOD-20160219-00019 (May 6, 2016) (Public Notice) (announcing grant of Intelsat's

#### IV. WAIVER REQUEST

To the extent necessary, Intelsat requests that the waivers previously granted for Galaxy 11 be extended to Galaxy 11 at 93.1° W.L. Specifically, to the extent necessary, Intelsat seeks an extension of the previously granted waivers of 47 C.F.R. §§ 25.114(d)(14)(ii) and 25.283(c) for the reasons previously stated.<sup>10</sup> The FCC revised rule 25.283(c) to remove the word “all” and thus permit a *de minimis* residual amount of fuel that cannot be vented, which may obviate the need to extend the previously granted waiver.

Additionally, Intelsat requests waiver of Section 2.106, Footnote NG52 of the U.S. Table of Allocations, which restricts the use of the 10700-11700 MHz band by the non-federal Fixed Satellite Service (“FSS”) in the geostationary orbit to international systems only.<sup>11</sup> Under Section 1.3 of the Commission’s rules, the Commission has authority to waive its rules “for good cause shown.”<sup>12</sup> Good cause exists if “special circumstances warrant a deviation from the general rule and such deviation will serve the public interest” better than adherence to the general rule.<sup>13</sup> In determining whether waiver is appropriate, the Commission should “take into account considerations of hardship, equity, or more effective implementation of overall policy.”<sup>14</sup> Additionally, a waiver of the Table of Allocations is generally granted “when there is

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application seeking extension of license for Intelsat 1R, a station-kept satellite, based on the satellite’s current projected end of service including future inclined-orbit operation).

<sup>10</sup> See *Policy Branch Information; Actions Taken*, Report No. SAT-01201, File No. SAT-MOD-20160803-00077 (Nov. 18, 2016) (Public Notice).

<sup>11</sup> 47 C.F.R. § 2.106, fn. NG52.

<sup>12</sup> 47 C.F.R. § 1.3; *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

<sup>13</sup> *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990).

<sup>14</sup> *WAIT Radio*, 418 F.2d at 1159.

little potential interference into any service authorized under the Table of Frequency allocations and when the nonconforming operator accepts any interference from authorized services.”<sup>15</sup>

Good cause exists to waive the international-only requirements for the 10950-11200 MHz frequency band on Galaxy 11. The purpose of NG52 is to limit the number of the FSS earth stations with which the co-primary FS would need to coordinate.<sup>16</sup> The International Bureau has found that waiving NG52 would not undermine the purpose of the rules if the party seeking a waiver: (1) will be utilizing earth stations that are receive-only in these bands and thus “not capable of causing interference into FS stations” operating in the bands; and (2) agrees to “accept any level of interference from FS stations” in these bands.<sup>17</sup>

With respect to the 10950-11200 MHz band, grant of the requested waiver satisfies these criteria and would be consistent with precedent.<sup>18</sup> The earth stations operating in this band on Galaxy 11 will not transmit and Intelsat agrees to accept any level of interference into those earth

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<sup>15</sup> See *The Boeing Company, Order and Authorization*, 16 FCC Rcd 22645, 22651 (Int’l Bur. & OET 2001); *Application of Fugro-Chance, Inc. for Blanket Authority to Construct and Operate a Private Network of Receive-Only Mobile Earth Stations, Order and Authorization*, 10 FCC Rcd 2860, 2860 (Int’l Bur. 1995) (authorizing MSS in the C-band); see also *Application of Motorola Satellite Communications, Inc. for Modification of License, Order and Authorization*, 11 FCC Rcd 13952, 13952-13956 (Int’l Bur. 1996) (authorizing service to fixed terminals in bands allocated the mobile satellite service).

<sup>16</sup> See *Amendment of Part 2 of The Commission’s Rules to Conform, to the Extent Practicable, with the Geneva Radio Regulations, as Revised by the Space WARC, Geneva, Report and Order*, 26 RR 2d 1257, ¶¶ 35-38 (1973). See also *EchoStar KuX Corporation 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, ¶ 9 (Int’l Bur. 2004) (“EchoStar 83° Waiver”).

<sup>17</sup> EchoStar 83° Waiver, ¶ 13.

<sup>18</sup> See, e.g., *DIRECTV Enterprises, LLC, Fleet Management Notice for SKY-B1 Satellite, Stamp Grant, File No. SAT-MOD-20170221-00019, Condition 10* (May 11, 2017).

stations from FS stations in the band. Intelsat will provide services in the 10950-11200 MHz frequency band only on a non-interference/non-protected basis. Accordingly, the earth stations operating in these bands pose no interference concerns with respect to co-frequency FS stations and therefore will not need to be coordinated with FS stations located within United States and its territories.

Intelsat also agrees to abide by the customer notification requirements that the International Bureau has previously imposed when granting waivers of NG52.<sup>19</sup> Intelsat will inform its customers in writing, including any customers receiving end-user services from resellers accessing capacity on Galaxy 11, of the potential for interference from FS operations in the 10950-11200 MHz band.

**V. 10950-11200 MHz AND 13750-14000 MHz FREQUENCY BANDS**

Intelsat understands that operations in the 10950-11200 MHz and 13750-14000 MHz frequency bands are subject to certain limitations and obligations, which Intelsat accepts and will fulfill. Specifically, for operations in the 10950-11200 MHz frequency band, Intelsat accepts the following condition:

- Operations in the 10950-11200 MHz frequency band shall comply with the terms of footnote US211 to the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, US211, which urges applicants for airborne or space station assignments to take all practicable steps to protect radio astronomy observations in the adjacent bands from harmful interference.

For operations in the 13750-14000 MHz band, Intelsat accepts the following conditions:

- In the 13750-14000 MHz band (Earth-to-space), receiving space stations in the fixed-satellite service shall not claim protection from radiolocation transmitting stations operating in accordance with the United States Table of Frequency Allocations.

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<sup>19</sup> See, e.g., *id.*; *Intelsat North America Request for Waiver*, Stamp Grant, File No. SAT-MOD-20050610-00122, Condition 3 (Sept. 30, 2005); *EchoStar 83° Waiver*, ¶ 13.



- Pursuant to footnote US337 of the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, any earth station in the United States and its possessions communicating with the Galaxy 11 space station in the 13750-14000 MHz band (Earth-to-space) is required to coordinate through National Telecommunications and Information Administration's ("NTIA") Interdepartment Radio Advisory Committee's ("IRAC") Frequency Assignment Subcommittee to minimize interference to the National Aeronautics and Space Administration ("NASA") Tracking and Data Relay Satellite System, including manned space flight.
- Operations of any earth station in the United States and its possessions communicating with the Galaxy 11 space station in the 13750-14000 MHz band (Earth-to-space) shall comply with footnote US356 to United States Table of Frequency Allocations, 47 C.F.R. § 2.106, US356, which specifies a mandatory minimum antenna diameter of 4.5 meters and a non-mandatory minimum and maximum equivalent isotropically radiated powers ("EIRP"). Operations of any earth station located outside the United States and its possessions communicating with the Galaxy 11 space station in the 13750-14000 MHz band (Earth-to-space) shall be consistent with footnote 5.502 to the ITU Radio Regulations, which allows a minimum antenna diameter of 1.2 meters for earth stations of a geostationary satellite orbit network and specifies mandatory power limits.
- Operations of any earth station in the United States and its possessions communicating with the Galaxy 11 space station in the 13750-14000 MHz band (Earth-to-space) shall comply with footnote US357 to United States Table of Frequency Allocations, 47 C.F.R. § 2.106, US357, which specifies that a required maximum EIRP density of emissions not exceeded 71 dBW in any 6 MHz band for communications with a space station in geostationary-satellite orbit. Operations of any earth station located outside the United States and its possessions communicating with the Galaxy 11 space station in the 13750-14000 MHz band (Earth-to-space) shall comply with footnote 5.503 to the ITU Radio Regulations, which specifies a required maximum EIRP density of emissions (limit is dependent on antenna diameter) for communications with a space station in geostationary-satellite orbit.
- Operators of earth stations accessing the Galaxy 11 space station in the 13750-14000 MHz band are encouraged to cooperate voluntarily with the NASA in order to facilitate continued operation of NASA's Tropical Rainfall Measuring Mission ("TRMM") satellite.

**VI. MILESTONE AND BOND REQUIREMENTS**

Because Galaxy 11 is already in-orbit and operating, grant of this modification application is not subject to milestone conditions, and Intelsat is not required to post a bond<sup>20</sup> under Sections 25.164(a) and 25.165 of the Commission's rules.<sup>21</sup>

**VII. CONCLUSION**

For the reasons set forth above, Intelsat respectfully requests that the Commission grant this modification application.

Respectfully submitted,

Intelsat License LLC

By: /s/ Susan H. Crandall

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December 31, 2018

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<sup>20</sup> See *Loral Skynet Network Services, Inc.*, 21 FCC Rcd 14,365 (Int'l Bur. 2006) ("Because Telstar 18 is in-orbit and operating, Loral is not required to post a bond.").

<sup>21</sup> See 47 C.F.R. §§ 25.164(a) and 25.165.

## Exhibit A

### FCC Form 312, Response to Question 34: Foreign Ownership

The Commission previously approved foreign ownership in Intelsat License LLC (“Intelsat”), in the Intelsat-Serafina Order.<sup>1</sup> In 2012, the International Bureau authorized the transfer of control of Intelsat.<sup>2</sup> There have been no other material changes to Intelsat’s foreign ownership since the date of the Intelsat-Serafina Order.

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<sup>1</sup> *Intelsat Holdings, Ltd. and Serafina Holdings Limited, Consolidated Application for Consent to Transfer of Control of Holders of Title II and Title III Authorizations*, Memorandum Opinion and Order, 22 FCC Rcd 22,151 (2007).

<sup>2</sup> *In the Matter of Intelsat Global Holdings, S.A., Applications to Transfer Control of Intelsat Licenses and Authorizations from BC Partners Holdings Limited to Public Ownership*, Order, 27 FCC Rcd 5,226 (2012). The transfer of control was fully consummated on June 14, 2018. See Letter from Jennifer D. Hindin, Counsel for Intelsat, to Marlene H. Dortch, FCC, IB Docket No. 11-205 (filed June 14, 2018).

**Exhibit B**  
**FCC Form 312, Response to Question 40:**  
**Officers, Directors, and Ten Percent or Greater Shareholders**

The officers and directors/managers of Intelsat License LLC are as follows:

Officers:

Jacques Kerrest, Chairman  
Franz Russ, Deputy Chairman  
Michelle Bryan, Secretary  
Mirjana Hervy, Director, Finance

Board of Managers:

Jacques Kerrest  
Franz Russ  
Michelle Bryan

The business address of all Intelsat License LLC officers and members of the Board of Managers is: 4 rue Albert Borschette L-1246 Luxembourg.

Intelsat License LLC is a Delaware limited liability company that is wholly owned by Intelsat License Holdings LLC, also a Delaware limited liability company. Intelsat License Holdings LLC is wholly owned by Intelsat Ventures S.à r.l., a Luxembourg company, which is in turn wholly owned by Intelsat Alliance LP, a Delaware limited partnership. Intelsat Alliance LP is indirectly wholly owned by Intelsat Jackson Holdings S.A., a Luxembourg company. Intelsat Jackson Holdings S.A. is wholly owned by Intelsat Connect Finance S.A., a Luxembourg company, which in turn is wholly owned by Intelsat Envision Holdings LLC, a Delaware limited liability company. Intelsat Envision Holdings LLC is wholly owned by Intelsat (Luxembourg) S.A., a Luxembourg company. Intelsat (Luxembourg) S.A. is wholly owned by Intelsat Investments S.A., a Luxemburg company, which in turn is wholly owned by Intelsat Holdings S.A., a Luxembourg company. Intelsat Holdings S.A. is wholly owned by Investment Holdings S.à r.l., a Luxembourg company. Intelsat Investment Holdings S.à r.l. is wholly owned by Intelsat S.A., a Luxembourg company. Each of these entities may be contacted at the following address: 4 rue Albert Borschette, L-1246 Luxembourg.

Intelsat S.A.'s ownership was approved by the Commission as part of the *Intelsat-Serafina Order* and the recent Intelsat Pro Forma and is incorporated by reference. See *Intelsat Holdings, Ltd. and Serafina Holdings Limited, Consolidated Application for Consent to Transfer of Control of Holders of Title II and Title III Authorizations*, Memorandum Opinion and Order, 22 FCC Rcd 22,151 (2007) ("*Intelsat-Serafina Order*"); *Intelsat Application for Pro Forma Transfer of Control*, File Nos. SAT-T/C-20180627-00048, SAT-T/C-20180627-00049, SES-T/C-20180627-01430, SES-T/C-20180627-01436, SES-T/C-20180627-01433 (granted June 29, 2018), 0008216564 (granted June 28, 2018) and 0037-EX-TU-2018 (granted June 29, 2018).

