+ GRANT IN PART / DENIED IN PART + +

SAT-LOA-20090227-00029 S2787

IB2009000535

Intelsat License LLC GALAXY KA

GRANTED* International Bureau

Call Sign <u>S2787</u> Grant Date 12 /16/13 (or other identifier)

File# SAT-LOA-20090227-00029

see From conditions

Approved:

Term Dates See To: conditions Approved by OMB 3060-0678

Date & Time Filed: Feb 27 2009 5:38:43:150PM

File Number: SAT-LOA-20090227-00029

Callsign/Satellite ID: S2787

+ with conditions

Stephen J. Duall

Chief, Satellite Policy Branch

APPLICATION FOR SATELLITE SPACE STATION AUTHORIZATIONS FCC 312 MAIN FORM FOR OFFICIAL USE ONLY

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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu: Application For Authority to Launch and Operate Galaxy KA at 89.1 W.L.

1-8. Legal Name of Applicant

Name:

Intelsat North America LLC

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DBA Name:

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c/o Intelsat Corporation

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susan.crandall@intelsat.com

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State:

DC

Country:

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Zipcode:

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-3006

Attention:

Susan H. Crandall

The application of Intelsat License LLC (formerly Intelsat North America LLC) (Intelsat), IBFS File No. SAT-LOA-20090227-00029, to launch and operate the Galaxy KA space station (Call Sign 2787) at the 89.1° W.L. orbit location, is GRANTED IN PART AND DENIED IN PART. Accordingly, Intelsat is authorized to construct, launch, and operate the Galaxy KA space station to provide Fixed-Satellite Service (FSS), including Direct-to-Home (DTH) services, using the 18.3-18.8 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 28.35-28.6 GHz (Earth-to-space), 29.25-29.50 GHz (Earth-to-space), and 29.5-30.0 GHz (Earth-to-space) frequency bands on a primary basis to North and South America. In addition, Intelsat is authorized to conduct telemetry, tracking and command (TT&C) operations in the 29.5-30.0 GHz (Earth-to-space) and 19.7-20.2 GHz (space-to-Earth) frequency bands at 89.1° W.L. This authorization is subject to the technical specifications set forth in Intelsat's application and the Federal Communication Commission's (Commission's) rules, and is 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 of this space station, in accordance with ITU Radio Regulations. Intelsat will be held responsible for all cost recovery fees associated with these ITU filings. We also note that 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 C.F.R. § 25.111(b).
- 2. Intelsat must maintain its space station within an east-west longitudinal station-keeping tolerance of $\pm 0.05^{\circ}$ of the 89.1° W.L. orbital location.
- 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 coordinate its space-to-Earth operations in the 18.3-18.8 GHz and 19.7-20.2 GHz frequency bands with U.S. Federal Systems, including Federal operations to earth stations in foreign countries, in accordance with footnote US334 to the United States Table of Frequency Allocations, 47 C.F.R. § 2.106. Absent a coordination agreement pursuant to footnote US334 to the Table of Allocations, Intelsat must operate the Galaxy KA Ka-band downlinks on a non-harmful interference basis with regard to operating U.S. Government systems within the 18.3-18.8 GHz and 19.7-20.2 GHz frequency bands, and Intelsat must terminate immediately its Ka-band downlink operations in the event that such operations cause harmful interference into operating U.S. Government systems, and Intelsat must accept interference from U.S. Government systems.
- 5. The power flux-density (PFD) at the Earth's surface produced by the emissions from the Galaxy KA space station for all atmospheric conditions, and for all methods of

modulation, in the 18.3-18.8 GHz and 19.7-20.2 GHz frequency bands (space-to-Earth), must not exceed a level of -118 dBW/m²/MHz at any angle of arrival. 1

- 6. The Galaxy KA space station is added to the Ka-band Permitted List at the 89.1° W.L. orbital location for the 28.35-28.6 GHz and 29.25-30.0 GHz (Earth-to-space), and the 18.3-18.8 GHz and 19.7-20.2 GHz (space-to-Earth) frequency bands; however, until Intelsat has completed coordination pursuant to Footnote US334 to the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, and both the FCC and the National Telecommunications and Information Administration have approved the coordination, U.S.-licensed earth stations must not communicate with the Galaxy KA space station in the 18.3-18.8 GHz and the 19.7-20.2 GHz frequency bands. See Revision of Part 25 Establishment of a Permitted List Procedure for Kaband Space Stations, Declaratory Order, 25 FCC Rcd 1542 (2010).
- 7. Intelsat's request for a waiver of Section 25.114(d)(3) of the Commission's rules, 47 C.F.R. § 25.114(d)(3), IS GRANTED. Section 25.114(d)(3) requires predicted space station antenna gain contour(s) for each transmit and each receive antenna beam and nominal orbital location requested. The main purpose of the contour map is to allow evaluation of the potential for harmful interference with other operators and services in the frequency band. Intelsat's application indicates that the omni-directional and wide coverage antenna diagrams (Exhibits 5J, 5K, 5M, and 5N) were not prepared in accordance with the requirements in Section 25.114(d)(3) of the Commission's rules because the space station manufacturer did not provide contours in the required form. We find that Exhibits 5J, 5K, 5M, and 5N, together with the descriptive characterization provided in Section 2.7.1 of the application, provide a sufficiently complete description of the transponder characteristics of the Galaxy KA space station to enable coordination of the frequency assignments with other administrations.
- 8. Intelsat's request for a waiver of Section 25.202(g) of the Commission's rules, 47 C.F.R. § 25.202(g), to allow Intelsat to use the 3700-4200 MHz (space-to-Earth) and 5925-6425 MHz (Earth-to-space) frequency bands for transfer and emergency TT&C operations IS DENIED. Section 25.202(g) of the Commission's rules requires FSS systems to operate their TT&C links in the same frequency bands in which they are providing service. The rule further provides that frequencies, polarization, and coding must be selected to minimize interference into other satellite networks and within their own satellite system. The purpose of the rule is to simplify the coordination process among satellites at adjacent orbit location by limiting the number of potentially affected operators to only those operators performing TT&C functions in the service bands. It also allows operators to maximize the efficiency of a system's TT&C operations. Intelsat has not justified a waiver of the rule. Intelsat states that a waiver is

¹ Footnote US255 to the United States Table of Frequency Allocations, 47 C.F.R. § 2.106, requires that the PFD across the 200 megahertz of the 18.6-18.8 GHz band not exceed -95 dBW/m². Galaxy KA's operations also meet other PFD limits for transmitting Ka-band space stations. *See* 47 C.F.R. §§ 25.138(a)(6), 25.208(c) and 25.208(d).

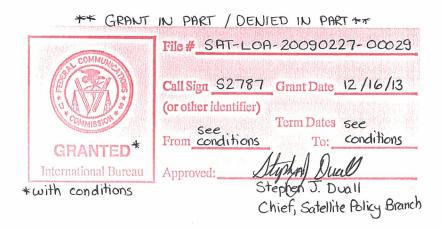
² 47 C.F.R. § 25.202(g) (telemetry, tracking and telecommand functions for U.S. domestic satellites shall be conducted at either or both edges of the allocated band(s)).

³ Amendment of the Commission's Rules with regard to the 3650-3700 MHz Government Transfer Band, First Report and Order and Second Notice of Proposed Rulemaking, 15 FCC Rcd 20488, 20538 (2000) (the rule effectively "limits FSS operators to operating TT&C links in the same frequency bands as their FSS operations").

appropriate because Galaxy KA will be co-located at the nominal 89° W.L. orbital location with Galaxy 28 (Call Sign S2160), which is authorized to operate, and is using, a C-band TT&C link. Intelsat argues that the most significantly affected operator is itself, and that it can easily act to minimize self-interference to systems under its common control. Moreover, Intelsat states that, for nearby C-band networks, Intelsat is already is the adjacent operator with which to coordinate, and that authorizing Galaxy KA to employ C-band TT&C during the limited circumstances of transfer orbit and emergency does not add parties to the coordination process. We disagree. Intelsat's proposed use of C-band frequencies for emergency mode operations would not be limited in duration. To be effective for emergency use, the frequencies must be set aside for use at any time for the life of the spacecraft, effectively precluding or conflicting with the use of the spectrum by other operators on a long term basis. Accordingly, use of out-of-band TT&C frequencies for emergency operations could impose coordination obligations on future satellite operators at adjacent orbit locations in the C-band. Although Galaxy 28 currently operates in the C-band at the 89° W.L. orbital location, grant of Intelsat's waiver request for Galaxy KA would continue to impose coordination requirements on operators at adjacent orbital locations in the Cband even in the event Galaxy 28 is retired from commercial service or moved to another location. Thus, we deny Intelsat's request for a waiver and find that compliance with the requirements of Section 25.202(g) would better serve the public interest.

- 9. Unless extended by the Commission for good cause shown, this authorization 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 and terms and conditions of this authorization by the specified time periods set forth in Section 25.164 of the Commission's rules and as follows:
 - a. Execute a binding contract for construction within one year (December 16, 2014);
 - b. Complete the Critical Design Review within two years (December 16, 2015);
 - c. Commence construction within three years (December 16, 2016);
 - d. Launch and begin operations within five years (December 17, 2018); and
 - e. Intelsat must file a bond with the Commission in the amount of \$3 million, pursuant to the procedures set forth in Public Notice, DA-03-2602, 18 FCC Rcd 16283 (2003), within 30 days of the date of this grant (January 15, 2014).
- 10. The license term for the Galaxy KA space station, Call Sign S2787, is 15 years and will begin to run on the date that Intelsat certifies to the Commission that the satellite has been successfully placed into orbit and its operation fully conforms to the terms and conditions of this authorization. Intelsat is directed to file this certification with the Chief, Satellite Division, International Bureau, within 10 business days of Galaxy KA commencing operations at its assigned location.
- 11. Intelsat is afforded thirty days from the date of release of this grant and authorization to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.

- 12. This action is without prejudice to any enforcement action by the Commission.
- 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 Sections 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within thirty days of the date of the public notice indicating that this action was taken.



9-16. Name of Contact Representative

Name:

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20006

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Attention:

Relationship:

Legal Counsel

CLASSIFICATION OF FILING

17. Choose the buttonnext to the classification that applies to this filing 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.

a 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

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

o b10. Replacement Satellite Application – no new frequency bands

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

o b12. Petition for Declaratory Ruling to be Added to the Permitted List

(N/A) b13. Other (Please specify)

17c. Is a fee submitted with this application?				
If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114). Governmental Entity Noncommercial educational licensee				
			Other(please explain):	
17c. Fee Classification BNY – Space Station (Geostationary)				
18. If this filing is in reference to an existing station, enter: (a) Call sign of station:				
Not Applicable				
19. If this filing is an amendment to a pending application enter:				
(a) Date pending application was filed:	(b) File number of pending application:			
Not Applicable	Not Applicable			

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provid	e 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 thebutton next to the applicable status. Choose	22. If earth station applicant, check all that apply.			
only one. Common Carrier Non–Common Carrier	Not Applicable			
T				
23. If applicant is providing INTERNATIONAL COMMON CARRIER s facilities:	service, see instructions regarding Sec. 214 filings. Choose one.Are these			
O Connected to a Public Switched Network O 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 Frequency Upper: 30000	(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.		
of. 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 Not Applicable apply.)		
ENVIRONMENTAL POLICY		

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.

O Yes O No

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.

29. Is the applicant a foreign government or the representative of any foreign government?	O Yes	⊚ No
30. Is the applicant an alien or the representative of an alien?	O Yes	● No O N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	O 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?	O 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	O No O 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.	
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 explination of circumstances.	
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 explination of circumstances.	O Yes ⊗ No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attemptiing 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	O 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 exhinit, an explanation of the circumstances.	O Yes O 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	0	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.	0	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?				

	rescription. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this please go to the end of the form to view it in its entirety.)
	Intelsat North America hereby applies for authority to launch and operate Galaxy KA at 89.1 degrees W.L.
Nar	rrative

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.	O 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.	O 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 appl	icable response.)		
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			
O Individual			
O Unincorporated Association			
O Partnership			
O Corporation			
Governmental Entity			
Other (please specify) Limited Liability Company	y		
45. Name of Person Signing Susan H. Crandall	46. Title of Person Signing Asst. General Counsel, Intelsat Corporation		
47. Please supply any need attachments.			
1: 2:	3:		
	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).			
(0.3. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).		

Completed Schedule S

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