

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
Request for 60-day Grant of Special Temporary Authority to Use Ellenwood, Georgia Earth Station E980502 to Communicate with Galaxy 11 Outside the Licensed Arc

1. Applicant

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

60 days "with conditions"

File # SES-STA-20190927-01264

Call Sign E980502 Grant Date 10/15/2019
(or other identifier)

Term Dates
From: 10/15/2019 To: 12/14/2019

Approved: Susan H. Crandall



2. Contact	
Name: Cynthia J. Grady	Phone Number: 703-559-6949
Company: Intelsat US LLC	Fax Number: 703-559-8539
Street: 7900 Tysons One Place	E-Mail: cynthia.grady@intelsat.com
City: McLean	State: VA
Country: USA	Zipcode: 22102 -5972
Attention:	Relationship: Legal Counsel
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)	
3. Reference File Number or Submission ID	
4a. Is a fee submitted with this application?	
<input checked="" 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 type="radio"/> Other (please explain):	
4b. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station	
5. Type Request	
<input type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other	
6. Requested Use Prior Date	
7. City/Ellenwood	8. Latitude (dd mm ss.s h) 33 39 53.0 N

9. State	GA	10. Longitude (dd mm ss.s h)	84 16 19.0 W
11. Please supply any need attachments.			
Attachment 1: STA Request	Attachment 2: Exhibit A	Attachment 3:	
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)			
<div style="border: 1px solid black; padding: 5px;"> <p>Intelsat License LLC herein requests Special Temporary Authority for 60 days, commencing October 15, 2019, to use its Ellenwood, Georgia earth station (Call Sign E980502) to communicate with the Galaxy 11 satellite outside of the currently licensed arc, in order to provide customer service.</p> </div>			
13. 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"; party to the application; party to the application; party to the application.			
<p style="text-align: center;"> <input checked="" type="radio"/> Yes <input type="radio"/> No </p>			
14. Name of Person Signing	Cynthia J. Grady	15. Title of Person Signing	Senior Counsel, Intelsat US LLC
<p style="text-align: center;"> 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). </p>			

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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.


Applicant: Intelsat License LLC
Call Sign: E980502
File No.: SES-STA-20190927-01264
Special Temporary Authority ("STA")

Intelsat License LLC- is granted special temporary authority for 60 days, beginning October 15, 2019, to operate its Ellenwood, Georgia earth station to communicate with the Galaxy 11 satellite (Call Sign S2253) currently outside of licensed arc between 29° W.L.thru 58° W.L. in order to provide customer service on frequency bands: 13750 - 14000 MHz (Earth-to-space). Galaxy 11 is outside of licensed arc at 93.1° W.L. and will operate under the following conditions.

1. All operations shall be on an unprotected and non-harmful interference basis, Intelsat License LLC, shall not cause harmful interference to, and shall not claim protection from, interference caused to it by any other lawfully operating station and it shall cease transmission(s) immediately upon notice of such interference and must inform the Commission, in writing, immediately of such an event.
2. All operators of satellites in that path will be provided with an emergency phone number where the licensee can be reached when harmful interference occurs. Currently the 24x7 contact information for the drift mission is as follows: Ph.: (703) 559-7701 - East Coast Operations Center (primary); (310) 525-5591 - West Coast Operations Center (back-up). Request to speak with Harry Burnham or Kevin Bell.
3. Grant of this STA is without prejudice to any determination that the Commission may make regarding pending or future Intelsat License LLC applications.
4. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Intelsat License LLC's risk.

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 upon release.

60 days *"with conditions"*

 GRANTED International Bureau	File # <u>SES-STA-20190927-01264</u>
	Call Sign <u>E980502</u> Grant Date <u>10/15/2019</u> (or other identifier)
	Term Dates From: <u>10/15/2019</u> To: <u>12/14/2019</u>
	Approved: <u>Paul E. Khan</u>



INTELSAT.

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September 26, 2019

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Request for Special Temporary Authority to Operate Ellenwood, Georgia Earth Station
Outside the Currently Licensed Arc to Communicate with Galaxy 11;
Call Sign E980502

Dear Ms. Dortch:

Intelsat License LLC (“Intelsat”) herein requests Special Temporary Authority (“STA”) for 60 days,¹ commencing October 15, 2019, to use its Ellenwood, Georgia earth station (Call Sign E980502) to communicate with the Galaxy 11 satellite (Call Sign S2253)² outside of the currently licensed arc, in order to provide customer service.

E980502 is currently authorized to communicate with satellites between 29° W.L.-58° W.L. Galaxy 11 is outside of this arc at 93.1° W.L. This STA will allow Intelsat to use E980502 to communicate with Galaxy 11 to provide customer service while it seeks to permanently modify the E980502 license.

The proposed operations will be performed in the 10700-12750 MHz (Space-to-Earth) and 13750-14000 MHz (Earth-to-Space) frequency bands. The proposed operations at 93.1° W.L. will be consistent with Intelsat’s coordination agreements for the nominal 93° W.L. orbital location. The 24x7 contact information for the proposed operations is as follows:

¹ Intelsat has filed its STA request, an FCC Form 159, a \$210.00 filing fee, and this supporting letter electronically via the International Bureau’s Filing System (“IBFS”).

² See *Satellite Communications Services Information, Actions Taken*, Report No. SES-01993, File No. SES-MOD-20170725-00801 (Sept. 20, 2017) (Public Notice); see also *Satellite Policy Branch Information, Actions Taken*, Report No. SAT-01411, File No. SAT-STA-20190822-00079 (Sept. 6, 2019) (Public Notice).

Ms. Marlene H. Dortch
September 26, 2019
Page 2

Ph.: (703) 559-7701 – East Coast Operations Center (primary)
(310) 525-5591 – West Coast Operations Center (back-up)

Request to speak with Harry Burnham or Kevin Bell.

In further support of this request, Intelsat herewith attaches a 13 GHz report as Exhibit A.

Grant of this STA request will enable Intelsat to provide continuity of service to customers at the nominal 93.0° W.L. location and thereby promotes the public interest.

For the reasons set forth herein, Intelsat respectfully requests that the Federal Communications Commission grant this STA request. Please direct any questions regarding this request to the undersigned at (703) 559-6949.

Respectfully submitted,

/s/ Cynthia J. Grady

Cynthia J. Grady
Senior Counsel
Intelsat US LLC

cc: Paul Blais



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October 15, 2019

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Request for Special Temporary Authority to Operate Ellenwood, Georgia Earth Station
Outside the Currently Licensed Arc to Communicate with Galaxy 11; Call Sign
E980502
File No. SES-STA-20190927-01264

Dear Ms. Dortch:

Intelsat License LLC (“Intelsat”) herein supplements its above-referenced request to update the requested frequencies. The first sentence of the third paragraph should now read:

The proposed operations will be performed in the 13750-14000 MHz
(Earth-to-Space) frequency band.

Please direct any further questions regarding this supplement to the undersigned at (703) 559-6949.

Respectfully submitted,

/s/ Cynthia J. Grady

Cynthia J. Grady
Senior Counsel
Intelsat US LLC

cc: Paul Blais
Anthony Asongwed

Exhibit A

Intelsat License LLC Atlanta, Georgia

RSI 8.1 KPC 8.1 Meter Earth Station

1. Background

This Exhibit is presented to demonstrate the extent to which the Intelsat License LLC ("Intelsat") satellite earth station in Atlanta, Georgia is in compliance with the Federal Communications Commission ("FCC") Report and Order 96-377. The potential interference from the earth station to U.S. Navy shipboard radiolocation operations ("RADAR") and the National Aeronautics and Space Administration ("NASA") space research activities in the 13.75-14.0 GHz band is addressed in this exhibit. The parameters for the earth station are:

Coordinates (NAD83):	33° 39' 53" N, 84° 16' 19" W
Satellite Location for Earth Station:	Galaxy 11 at 29°W to 139°W
Frequency Band:	13.75-14.00 GHz
Polarizations:	Linear & Circular
Emissions:	850KF7D
Modulation:	FM/PCM/BPSK
Maximum Aggregate Uplink EIRP:	85dBW for all Carriers
Transmit Antenna Characteristics	
Antenna Size:	8.1 Meters in Diameter
Antenna Type/Model:	RSI 8.1 KPC
Gain:	59.6 dBi
RF Power into Antenna Flange:	25.4 dBW or 2.1 dBW/4kHz
Minimum Elevation Angle:	20.14° @ 111.02° Azimuth 20.59° @ 248.59° Azimuth
Side Lobe Antenna Gain	FCC Reference Pattern

Because the above uplink spectrum is shared with the Federal Government, coordination in this band requires resolution data pertaining to potential interference between the earth stations and both U.S. Navy Department and NASA systems. Potential interference from the earth station could impact the U.S. Navy and/or NASA systems in two areas. These areas are noted in GCC Report and Order 96-377 dated September 1996, and consist of (1) Radiolocation and Radio Navigation, (2) Data Relay Satellites.

Summary of Coordination Issues:

- a.) Potential Impact to Government Radiolocation (Shipboard Radar)
- b.) Potential Impact to NASA Tracking and Data Relay Satellite Systems ("TDRSS")

2. Potential Impact to Government Radiolocation (Shipboard Radar)

Radiolocation operations ("RADAR") may occur anywhere in the 13.4-14.0 GHz frequency band aboard ocean-going U.S. Navy ships. FCC order 96-377 allocates the top 250 MHz of this 600 MHz band to the Fixed Satellite Service ("FSS") on a co-primary basis with the radiolocation operations and provides for an interference protection level of $-167 \text{ dBW/m}^2/4\text{kHz}$.

The closest distance to the shoreline from Atlanta, Georgia earth station is approximately 369 km. The calculation of the power spectral density at this distance is given by:

1. Clear Sky EIRP:	85 dBW
2. Carrier Bandwidth:	850 kHz
3. PD at antenna input:	2.1 dBW/4kHz
4. Transmit Antenna Gain:	59.6 dBi
5. Antenna Gain to Horizon:	-3.6 dBi
6. Antenna Elevation Angles:	20.1° @ 111° azimuth 20.6° @ 248.6° azimuth

The earth station will radiate interference toward the ocean according to its off-axis side-lobe performance. A conservative analysis, using FCC standard reference pattern, results in an off-axis antenna gain of -3.6 towards the nearest shoreline.

The signal density at the shoreline, through free space is:

$$\begin{aligned} \text{PFD} &= \text{Antenna Feed Power density (dBW/4kHz)} + \text{Antenna Off-Axis Gain (dBi)} - \text{Spread Loss (dBW/m}^2\text{)} \\ &= 2.1\text{dBW/4kHz} + -3.6\text{dBi} - (10*\log[4*\text{PI}*[369\text{km}]^2]) \\ &= -123.8 \text{ dBW/m/4kHz} - \text{Additional Path Losses (87 dB)} \end{aligned}$$

Our calculation indicate additional path loss of approximately 87 dB including absorption loss and earth diffraction loss for the actual path profiles from the earth station to the nearest shoreline.

The calculated PFD, including additional path losses to the closest shoreline, is $-210.8\text{dBW/m}^2/4 \text{ kHz}$. This is 43.8dB below the $-167.0 \text{ dBW/m}^2/4 \text{ kHz}$ interference criteria of the R&O 96-377. Therefore, there should be no interference to the U.S. Navy RADAR from the Atlanta, Georgia earth station due to the distance and the terrain blockage between the site and the shore.

3. Potential Impact to NASA's Tracking and Data Relay Satellite System

The geographic location of the Intelsat earth station in Atlanta, Georgia is outside the 390 km radius coordination contour surrounding NASA's White Sands, New Mexico ground station complex. Therefore the TDRSS space-to-earth link will not be impacted by the Intelsat earth station in Atlanta, Georgia.

The TDRSS space-to-space link in the 13.772 to 13.778 GHz band is assumed to be protected if an earth station produces an EIRP of less than 71 dBW/6MHz in this band. The 8.1 meter earth station antenna will not transmit in this band. Therefore, there will be no potential interference to the TDRSS space-to-space link.

4. Coordination Result Summary and Conclusions

The results of the analysis and calculation performed in this exhibit indicate that compatible operation between the earth station at the Atlanta, Georgia facility and U.S. Navy and NASA TDRSS space-to-earth and space-to-space links are possible. No interference to U.S. Navy RADAR or NASA TDRSS operations from the Atlanta, Georgia site earth station should occur.