

S2850 SAT-STA-20120621-00102 IB2012001553  
Intelsat License LLC  
Intelsat 19



File # SAT-STA-20120621-00102

Call Sign S2850 Grant Date 08/02/12  
(or other identifier)

Term Dates  
From 06/30/12 To: 07/29/12

Approved by OMB  
3060-0678

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

Date & Time Filed: Jun 21 2012 3:28:37:660PM  
File Number: SAT-STA-20120621-00102  
Callsign:

FEDERAL COMMUNICATIONS COMMISSION  
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY  
FOR OFFICIAL USE ONLY

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:  
Request for Extension of Special Temporary Authority for Intelsat 19 (Call Sign S2850)

1. Applicant

<b>Name:</b>	Intelsat License LLC	<b>Phone Number:</b>	202-944-7848
<b>DBA Name:</b>		<b>Fax Number:</b>	202-944-7870
<b>Street:</b>	c/o Intelsat Corporation 3400 International Drive, N.W.	<b>E-Mail:</b>	susan.crandall@intelsat.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20008 -3006
<b>Attention:</b>	Susan H. Crandall		

**Attachment to Grant**  
**IBFS File No. SAT–STA–20120621–00102**  
**Call Sign: S2850**

The application of Intelsat License LLC (Intelsat) for special temporary authority, IBFS File No. SAT–STA–20120621–00102, is granted for a period of 30 days, from June 30 through July 29, 2012. Accordingly, Intelsat is authorized to continue to conduct in-orbit testing of the Intelsat 19 space station at 176.0° E.L. in the 3700-4200 MHz (space-to-Earth), 5925-6425 MHz (Earth-to-space), 12.25-12.75 GHz (space-to-Earth), and 14.0-14.5 GHz (Earth-to-space) frequency bands. Intelsat is also authorized to conduct telemetry, tracking, and command operations necessary to maintain Intelsat 19 at 176.0° E.L. and to drift Intelsat 19 from 176.0° E.L. to its authorized location at 166.0° E.L. using the following center frequencies: 12.2535 GHz, 12.2540 GHz, 12.2560 GHz, and 12.2565 GHz (space-to-Earth), and 14.0005 and 14.0030 GHz (Earth-to-space). Operations under this authorization must be in accordance with the terms and conditions contained in Intelsat's application and the Federal Communications Commission's rules not waived herein, and are subject to the following conditions:

1. All operations under this grant of special temporary authority shall be on an unprotected and non-harmful interference basis, *i.e.*, Intelsat shall not cause harmful interference to, and shall not claim protection from interference caused to it by, any other lawfully operating radiocommunication system.
2. In the event of any harmful interference as a result of the operations under this grant of special temporary authority, Intelsat shall cease operations immediately upon notification of such interference and shall immediately inform the Commission, in writing, of such an event.
3. Intelsat shall coordinate the operations of Intelsat 19 with existing geostationary space stations to ensure that no unacceptable interference results from its operations at the 176.0° E.L. orbital location or during drift to the 166° E.L. orbital location.
4. Intelsat 19's operations at 176.0° E.L. shall be limited to IOT and shall not include the provision of commercial services.
5. Intelsat shall operate only the TT&C frequencies on Intelsat 19 during the space station's drift from the 176.0° E.L. orbital location to the 166.0° E.L. orbital location.
6. During in-orbit testing, Intelsat shall maintain the Intelsat 19 space station within an east/west longitudinal station-keeping tolerance of  $\pm 0.05$  degrees of the 176.0° E.L. orbital location.
7. IOT operations in the 3700 – 4200 MHz (space-to-Earth), 5925 – 6425 MHz (Earth-to-space), 12250-12750 MHz (space-to-Earth), and 14.0 – 14.5 GHz (Earth-to-space) at 176.0° E.L. must comply with the conditions imposed in IBFS File No. SAT-RPL-20111222-00245 (granted May 25, 2012).
8. Intelsat is granted a waiver of the U.S. Table of Frequency Allocations to permit it to use the 12.25-12.75 GHz frequency band in ITU Region 2 in the space-to-Earth direction during LEOP, IOT, and drift from the 176.0° E.L. orbital location to the 166.0° E.L. orbital location. The U.S. Table of Frequency Allocations allocates the 12.25-12.70 GHz band to Fixed Service (FS) and Broadcast Satellite Service (BSS) (space-to-Earth) and allocates the 12.70-12.75 GHz band to FS, Mobile Service (MS), and Fixed-Satellite Service (FSS) in the Earth-to-space direction only. We find that the limited, short-term operations proposed by Intelsat in the 12.25-12.75 GHz band are unlikely to cause interference to other users of the band and justify a


**Attachment to Grant**  
**IBFS File No. SAT-STA-20120621-00102**  
**Call Sign: S2850**

waiver of the U.S. Table of Frequency Allocations in this instance.

9. Any action taken or expense incurred as a result of operations pursuant to this grant of special temporary authority is at Intelsat's own risk.

10. Intelsat shall notify the Commission, in writing, within two business days of the commencement of IOT operations that such operations have commenced.

11. 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.

 <b>GRANTED*</b> International Bureau *with conditions	<b>File #</b> <u>SAT-STA-20120621-00102</u>
	<b>Call Sign</b> <u>S2850</u> <b>Grant Date</b> <u>08/02/12</u> (or other identifier)
	<b>Term Dates</b> <b>From</b> <u>06/30/12</u> <b>To:</b> <u>07/29/12</u>
	<b>Approved:</b> <u><i>Stephen J. Duall</i></u> Stephen J. Duall Chief, Satellite Policy Branch

2. Contact

<b>Name:</b>	Susan H. Crandall	<b>Phone Number:</b>	202-944-7848
<b>Company:</b>	Intelsat Corporation	<b>Fax Number:</b>	202-944-7870
<b>Street:</b>	3400 International Drive, N.W.	<b>E-Mail:</b>	susan.crandall@intelsat.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20008 -3006
<b>Attention:</b>	Susan H. Crandall	<b>Relationship:</b>	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?

- 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):

4b. Fee Classification    CRY – Space Station (Geostationary)

5. Type Request

- Change Station Location                       Extend Expiration Date                       Other

6. Temporary Orbit Location

7. Requested Extended Expiration Date  
2012-07-29 00:00:00.0

8. 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.)

Intelsat License LLC herein requests an additional 30 days, from June 30, 2012 through July 29, 2012, of the Special Temporary Authority previously granted Intelsat for its Intelsat 19 satellite (call sign S2850) to (1) permit launch and early orbit phase 500 kHz wide telemetry transmissions centered at the 12253.5 MHz, 12254.0 MHz, 12256.0 MHz, and

9. 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

10. Name of Person Signing  
Susan H. Crandall

11. Title of Person Signing  
Asst. General Counsel, Intelsat Corporation

12. Please supply any need attachments.

Attachment 1: STA Request

Attachment 2:

Attachment 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).

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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.**

## **8. Description**

Intelsat License LLC herein requests an additional 30 days, from June 30, 2012 through July 29, 2012, of the Special Temporary Authority previously granted Intelsat for its Intelsat 19 satellite (call sign S2850) to (1) permit launch and early orbit phase 500 kHz wide telemetry transmissions centered at the 12253.5 MHz, 12254.0 MHz, 12256.0 MHz, and 12256.5 MHz towards Region 2, (2) conduct in-orbit testing at 176.0 E.L. in the 3700-4200 MHz (downlink), 5925-6425 MHz (uplink), 12250-12750 MHz (downlink), and 14000-14500 MHz (uplink) frequency bands, and (3) drift from the 176.0 E.L. IOT location to the 166.0 E.L. permanent location using the telemetry, tracking and command frequencies of the satellite.

June 21, 2012

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



Re: Request for Extension of Special Temporary Authority for  
Intelsat 19, File No. SAT-RPL-20111222-00245,  
Call Sign S2850

Dear Ms. Dortch:

Intelsat License LLC (“Intelsat”) herein requests an additional 30 days — from June 30, 2012 through July 29, 2012 — of the Special Temporary Authority (“STA”)<sup>1</sup> previously granted Intelsat for its Intelsat 19 satellite (call sign S2850) to (1) permit launch and early orbit phase (“LEOP”) 500 kHz wide telemetry transmissions centered at the 12253.5 MHz, 12254.0 MHz, 12256.0 MHz, and 12256.5 MHz towards Region 2,<sup>2</sup> (2) conduct in-orbit testing (“IOT”) at 176.0° E.L. in the 3700-4200 MHz (downlink), 5925-6425 MHz (uplink), 12250-12750 MHz (downlink), and 14000-14500 MHz (uplink) frequency bands, and (3) drift from the 176.0° E.L. IOT location to the 166.0° E.L. permanent location using the satellite’s telemetry, tracking and command (“TT&C”) frequencies.<sup>3</sup> Intelsat 19 was launched on June 1, 2012. As part of this extension request, Intelsat continues to seek a waiver of the U.S. Table of Frequency Allocations to permit IOT and drift operations using downlink frequencies in the 12250-12750 MHz band in Region 2. LEOP operations have been completed and the satellite currently is undergoing in-orbit testing.

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<sup>1</sup> Intelsat has filed this STA request, an FCC Form 159, a \$860.00 filing fee and this supporting letter electronically via the International Bureau’s Filing System (“IBFS”).

<sup>2</sup> Intelsat’s application for authority to launch and operate the Intelsat 19 satellite included a request to operate in the frequencies necessary to conduct LEOP transmissions that are not included in this STA request for the Ku-band downlink. *See Policy Branch Information; Actions Taken*, Report No. SAT-00871, File No. SAT-RPL-20111222-00245 (June 1, 2012) (Public Notice) (“Intelsat 19 Application”).

<sup>3</sup> *See Policy Branch Information; Actions Taken*, Report No. SAT-00871, File No. SAT-STA-20120508-00081 (June 1, 2012) (Public Notice).



### **Request for Extension of Special Temporary Authority**

IOT. Intelsat will continue in-orbit testing of Intelsat 19 at 176.0° E.L. in the 3700-4200 MHz (downlink), 5925-6425 MHz (uplink), 12250-12750 MHz (downlink), and 14000-14500 MHz (uplink) frequency bands. To Intelsat's knowledge, the co-frequency satellites within plus/minus six degrees of 176.0° E.L. are GE-23 at 172.0° E.L., Inmarsat 3-F3 at 178.0° E.L., Intelsat 18 at 180.0° E.L., and Intelsat 602 at 177.85° E.L. Intelsat has coordinated the Intelsat 19 in-orbit testing with GE Satellite and Inmarsat, Ltd., the operators, respectively, of GE-23 and Inmarsat 3-F3. With regard to the remaining spacecraft, Intelsat will continue to internally coordinate the proposed testing with the operations of these satellites. In the unlikely event that harmful interference occurs, Intelsat will take all necessary steps to eliminate the interference. Intelsat is also not aware of any geostationary space station in Region 2 receiving in the 12700-12750 MHz band.

Intelsat has assessed and limited the probability of the space station becoming a source of debris as a result of collision with large debris or other operational space stations during in-orbit testing at 176.0° E.L. Intelsat 19 will not be located at the same orbital location as another satellite or at an orbital location that has an overlapping station-keeping volume with another satellite. Further, Intelsat is not aware of any other FCC licensed system, or any other system applied for and under consideration by the FCC, having an overlapping station-keeping volume with Intelsat 19. Finally, Intelsat is not aware of any system with an overlapping station-keeping volume with Intelsat 19 that is the subject of an ITU filing and that is either in orbit or progressing towards launch.

Drift. During the drift from 176.0° E.L. to 166.0° E.L., only the satellite's TT&C frequencies will be utilized. Intelsat will coordinate the telemetry (and other TT&C) transmissions of Intelsat 19 with the operator of any other co-frequency satellite that may be in its drift path.

### **Request for Waiver**

In the U.S. Table of Frequency Allocations, the 12250-12700 MHz band is allocated to Fixed Service ("FS") and Broadcast Satellite Service ("BSS"); the 12700-12750 MHz band is allocated to FS, Mobile Service ("MS"), and uplink Fixed-Satellite Service ("FSS").<sup>4</sup> Intelsat seeks continued waiver of

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<sup>4</sup> 47 C.F.R. § 2.106. In Region 2, the International Table of Frequency Allocation allocates the 12250-12500 MHz band to Broadcast Service, BSS, FS, and MS on a co-primary basis; and the 12700-12750 MHz band to FS, MS and FSS (Earth-to-space).

the U.S. Table of Frequency Allocations to allow use of the 12250-12750 MHz band for downlink Fixed-Satellite Service (“FSS”) in Region 2.

The Commission may grant a waiver for good cause shown.<sup>5</sup> The Commission typically grants a waiver where the particular facts make strict compliance inconsistent with the public interest.<sup>6</sup> In granting a waiver, the Commission may take into account considerations of hardship, equity, or more effective implementation of overall policy on an individual basis.<sup>7</sup> Waiver is therefore appropriate if special circumstances warrant a deviation from the general rule, and such a deviation will serve the public interest.

Good cause exists for waiver to authorize LEOP transmissions and the drift of Intelsat 19 from 176.0° E.L. to 166.0° E.L. because Intelsat’s use of the 12250-12750 MHz band for these purposes will not cause harmful interference to any terrestrial stations or satellites.<sup>8</sup> Terrestrial stations within the United States will not be subjected to harmful interference from the telemetry transmissions of Intelsat 19 because the satellite’s telemetry carriers are compliant with the International Telecommunication Union (“ITU”) space-to-Earth power flux density (“PFD”) limits over the Earth. Specifically, in order to ensure protection of terrestrial communication links from space station transmissions, Article 21.16 of the ITU Radio Regulations imposes PFD limits on satellite transmissions in the space-to-Earth direction.<sup>9</sup> In the Intelsat 19 application, Intelsat calculated the PFD

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<sup>5</sup> 47 C.F.R. §1.3.

<sup>6</sup> *N.E. Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990) (“*Northeast Cellular*”).

<sup>7</sup> *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969); *Northeast Cellular*, 897 F.2d at 1166.

<sup>8</sup> See *Intelsat North America LLC, Application for Authority to Modify Earth Station Authorization to Provide Launch and Early Orbit Phase (“LEOP”) Operations for Newly Launched Satellites*, Order and Authorization, 21 FCC Rcd 14672, 14674 (¶ 6) (Int’l Bur. 2006) (“If a proposal will not cause interference to other licensed operations, the Commission generally authorizes it if it is otherwise in the public interest.”).

<sup>9</sup> ITU Radio Regulations, Art. 21.16 (2008). For ITU Region 2, PFD limits are specified only for non-geostationary satellites operating in the 11.7 – 12.7 GHz band. However, these limits may also be applied to geostationary satellites, since the PFD limit is intended to protect terrestrial stations from space station transmissions irrespective of whether the radiating space station is geostationary or non-geostationary. Actually, when converted to the same reference bandwidth, these limits are identical to those applicable to geostationary FSS space stations in Region 3.

level of its telemetry carriers on the Earth.<sup>10</sup> These calculations show that the Intelsat 19 telemetry transmissions will be compliant with the PFD limits specified in Art. 21.16 of the ITU Radio Regulations.<sup>11</sup> Accordingly, terrestrial stations operating in ITU Region 2 will not be subjected to harmful levels of interference from Intelsat 19's telemetry transmission. Moreover, as explained above, space stations operating in the 12250-12750 MHz frequency band will not be impacted because Intelsat will coordinate the telemetry of Intelsat 19 with any affected satellite operators that are in the LEOP or drift path.

Good cause also exists for waiver to allow Intelsat to conduct IOT of the Intelsat 19 satellite at 176.0° E.L. in the 12250-12750 MHz downlink band because it will not cause harmful interference to any terrestrial stations or satellites.<sup>12</sup> Intelsat will conduct all IOT of these frequencies from an earth station located outside ITU Region 2 in Kumsan, South Korea. In addition, during IOT the satellite bias will be maintained such that transmissions from Intelsat 19 in the 12250-12750 MHz band into ITU Region 2 are limited geographically to ocean areas. As such, the transmissions during IOT will not affect terrestrial systems in ITU Region 2.

Space stations operating in the 12250-12750 MHz frequency band will not be impacted by IOT operations because Intelsat will coordinate with any affected satellite operators. Moreover, according to the ITU Region 2 BSS Plan, in the 12250-12700 MHz band, no BSS assignment can be located further west than 175.2° W.L. Hence, there is 8.8° of orbital separation between Intelsat 19 at 176° E.L., where the satellite will conduct in-orbit testing, and the nearest BSS network that could provide service to any portion of ITU Region 2. With this orbital separation, there would be no risk of harmful interference to BSS networks from the operation of Intelsat 19 in the 12250-12700 MHz band. Moreover, there are no BSS satellites currently in operation at 175.2° W.L.; the nearest operational BSS satellite to Intelsat 19 that serves any portion of ITU Region 2 in the 12250-12700 MHz band is located at 129.0° W.L. Accordingly, no operational BSS satellite providing service to ITU Region 2 would be subjected to harmful interference from the Intelsat 19 telemetry transmissions.

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<sup>10</sup> See Intelsat 19 Application, Engineering Statement at Exhibit 10.

<sup>11</sup> It is noted that calculations in the Intelsat 19 application addressing the PFD produced on the Earth by the telemetry transmissions show that there is enough margin for the PFD to be met even when during LEOP the satellite is at a height lower than that corresponding to the geostationary orbit.

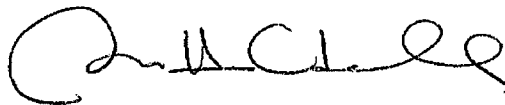
<sup>12</sup> See *supra* note 8.

Ms. Marlene H. Dortch  
June 21, 2012  
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Grant of this STA extension request and continued waiver of the U.S. Table of Frequency Allocations set forth in Section 2.106 of the FCC's rules will facilitate the continued in-orbit testing of Intelsat 19, which is a critical step in ensuring that the satellite will be fully operational at 166.0° E.L. The subsequent drift of the satellite to 166.0° E.L. will ensure continuity of service to customers, and thereby promotes the public interest.

For the reasons set forth herein, Intelsat respectfully requests that the Commission grant this extension request.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Susan H. Crandall". The signature is fluid and cursive, with a large initial "S" and "C".

Susan H. Crandall  
Assistant General Counsel  
Intelsat Corporation

cc: Robert Nelson  
Karl Kensinger  
Kathryn Medley  
Stephen Duall  
Jay Whaley