

S2459 PanAmSat Licensee Corp. Intelsat 2  
SAT-STA-20110112-00011  
IB2011000099  
File # SAT-STA-20110112-00011  
\* see also SAT-STA-20110112-00010



Call Sign S2459 Grant Date 01/14/11  
Term Dates period of  
From 01/20/11 To: 30 days

Approved by OMB  
3060-0678

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

Date & Time Filed: Jan 12 2011 4:02:12:100PM  
File Number: SAT-STA-20110112-00011  
Callsign: Intelsat 2

FEDERAL COMMUNICATIONS COMMISSION  
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY

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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:  
Request for Special Temporary Authority for Waiver of Section 25.283(c) for the De-Orbit of Intelsat 2 (S2459)

1. Applicant

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

**Application of PanAmSat Licensee Corp.**  
**IBFS File Nos. SAT-STA-20110112-00010; SAT-STA-20110112-00011**  
**Call Sign S2459**

The applications of PanAmSat Licensee Corp. (PanAmSat) for special temporary authority, IBFS File Nos. SAT-STA-20110112-00010 and SAT-STA-20110112-00011, are granted. Accordingly, PanAmSat is authorized for a period of 30 days, beginning on January 20, 2011, to conduct Telemetry, Tracking, and Telecommand (TT&C) operations necessary to drift Intelsat 2 (Call Sign S2459) from 157.0° E.L. to 174.0° E.L. using the following frequencies: 6424.5 MHz (H) and 5925.5 MHz (H) (Earth-to-space), and 4198.5 MHz (H, V) and 4199.5 MHz (H, V) (space-to-Earth). PanAmSat is also authorized to operate Intelsat 2 temporarily in the C- and Ku-bands at 174.0° E.L. using the following frequencies: 3700-4200 MHz (space-to-Earth), 5925-6425 MHz (Earth-to-space), 12250-12750 MHz (space-to-Earth), and 14000-14500 MHz (Earth-to-space). This authorization is granted in accordance with the terms, conditions, and technical specifications set forth in PanAmSat's applications, the Federal Communications Commission's rules, and the conditions of this attachment.

1. All operations shall be on an unprotected and non-harmful interference basis, *i.e.*, Intelsat 2 shall not cause harmful interference to, and shall not claim protection from interference caused to it by, any other lawfully operating station.
2. In the event of any harmful interference, PanAmSat shall cease operations immediately upon notification of such interference, and shall inform the Commission, in writing, immediately of such an event.
3. In connection with the provision of service in any particular country, PanAmSat is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country.
4. While at the 174.0° E.L. orbital location, PanAmSat shall maintain the Intelsat 2 spacecraft with an east/west longitudinal station-keeping tolerance of +/- 0.05 degrees.
5. PanAmSat shall coordinate its operations with existing geostationary satellites to ensure that no unacceptable interference results from its temporary operations at the 174.0° E.L. orbital location or from its TT&C operations during the drift to the 174.0° E.L. orbital location.
6. PanAmSat shall operate at the 174.0° W.L. orbital location pursuant to existing or future coordination agreements for that location.
7. Grant of this authorization does not convey to PanAmSat any authority to operate a space station at the 174.0° E.L. orbital location beyond the term granted herein, nor convey any priority in the United States' satellite licensing process relative to applications for authority to operate a regularly authorized satellite at this orbital location.
8. Grant of this special temporary authorization does not constitute "specific authority" pursuant to Section 25.161(c) of the Commission's rules.

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9. Grant of this special temporary authorization is without prejudice to any decision regarding PanAmSat's ability to file an application for authorization at the 157° E.L. orbital location 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.<sup>1</sup> Grant of this special temporary authorization does not constitute an announcement that these frequencies are available for reassignment.
10. Use of the 12.5-12.75 GHz frequency bands is not permitted for Fixed-Satellite Service in the space-to-Earth direction in Region 2.
11. Within 30 days of completion of any end-of-life maneuvers for the Intelsat 2 spacecraft, which were approved in IBFS File No. SAT-MOD-20080811-00153, PanAmSat shall send a letter to the Chief, Satellite Division, International Bureau, indicating the apogee and perigee of the Intelsat 2 disposal orbit.
12. The applicant's request for waiver of Section 25.283(c) of the Commission's rules, 47 C.F.R. § 25.283(c), IS GRANTED. Section 25.283(c) requires discharge of all stored energy sources when a space station is retired from service. Intelsat 2 is a Boeing 601 model spacecraft, which has a liquid propulsion system that includes two helium pressurant tanks and two pairs of fuel and oxidizer tanks. The fuel and oxidizer tanks will be vented in the end-of-life shutdown procedure, but there is no mechanism for venting the helium tanks. Instead, the helium tanks were sealed by firing pyrotechnic valves shortly after launch in 1994. PanAmSat states that the helium tanks have enclosed volumes of 43.53 and 42.51 liters and estimates that the mass and pressure of residual helium in each tank will be not exceed 129 grams and 262 psi, respectively, at end-of-life. We waive Section 25.283(c) in light of the fact that the action taken to seal the helium tanks was taken prior to the adoption of this rule, and compliance would require direct retrieval of the spacecraft.
13. Any action taken or expense incurred as a result of operations pursuant to this special temporary authority is solely at PanAmSat's own risk.

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<sup>1</sup> PanAmSat has been granted special temporary authority, since September 21, 2010, to conduct telemetry, tracking, and telecommand operations necessary to drift Intelsat 2 from the 157° E.L. orbital location to 174.0° E.L. orbital location and to maintain at that location upon arrival. *See* IBFS File Nos. SAT-STA-20101214-00258 (granted Jan. 6, 2011); SAT-STA-20101115-00236 (granted Dec. 9, 2010); SAT-STA-20101012-00215 (granted Oct. 20, 2010); SAT-STA-20100810-00176 (granted Sept. 21, 2010). Prior to this authorization, PanAmSat was granted special temporary authority, for a period of 90 days commencing June 25, 2010, to conduct telemetry, tracking, and telecommand operations necessary to drift Intelsat 2 from the 169.10° to the 157° E.L. orbital location and to maintain the satellite at that location upon arrival. *See* SAT-STA-20100330-00059. On August 6, 2010, PanAmSat was granted special temporary authority to operate the communications payload on the Intelsat 2 space station at 157° E.L. *See* IBFS File No. SAT-STA-2010330-0059. At the time of this grant, Intelsat has no application pending to operate a space station 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 at the 157° W.L. orbital location. No Intelsat space station will be operating on these frequency bands at 157° E.L. once Intelsat 2 ceases operations at this location.

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**Call Sign S2459**

- 14. PanAmSat North America 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.
  
- 15. This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within 30 days of the date of the public notice indicating that this action was taken.

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| <br><b>GRANTED*</b><br>International Bureau<br>*with conditions | <del>SAT-STA-20110112-00010</del>   |
|  | File # <u>SAT-STA-20110112-00011</u>  |
|  | Call Sign <u>S2459</u> Grant Date <u>01/14/11</u><br>(or other identifier)              |
|  | Term Dates period of<br>From <u>01/20/11</u> To: <u>30 days</u>                         |
|  | Approved: <u>Stephen J. Duall</u><br>Stephen J. Duall<br>Chief, Satellite Policy Branch |

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|---|--|
| <b>2. Contact</b>   |  |
| <b>Name:</b> Jennifer 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           |
| (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 CRY - Space Station (Geostationary)  |  |
| 5. Type Request   |  |
| <input type="radio"/> Change Station Location   | <input type="radio"/> Extend Expiration Date |
|   | <input checked="" type="radio"/> Other       |
| 6. Temporary Orbit Location   | 7. Requested Extended Expiration Date        |

|  |  |                           |               |  |               |
|--|--|---------------------------|---------------|--|---------------|
| <p>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.)</p> <div style="border: 1px solid black; padding: 5px;"> <p>PanAmSat Licensee Corp. herein requests Special Temporary Authority for 30 days--from January 12, 2011 to February 10, 2011--for a waiver of Section 25.283(c) of the Commission's rules to the extent the rule requires PanAmSat to discharge all propellant remaining in the Intelsat 2 satellite (call sign S2459) upon de-orbiting.</p> </div>         |  |                           |               |  |               |
| <p>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.</p> <p style="text-align: center;"> <input checked="" type="radio"/> Yes      <input type="radio"/> No         </p> |  |                           |               |  |               |
| <p>10. Name of Person Signing<br/>Susan H. Crandall</p>  | <p>11. Title of Person Signing<br/>Asst. General Counsel, Intelsat Corporation</p> |                           |               |  |               |
| <p>12. Please supply any need attachments.</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">Attachment 1: STA Request</td> <td style="width: 50%;">Attachment 2:</td> </tr> <tr> <td></td> <td>Attachment 3:</td> </tr> </table>   |  | Attachment 1: STA Request | Attachment 2: |  | Attachment 3: |
| Attachment 1: STA Request  | Attachment 2:  |                           |               |  |               |
|  | Attachment 3:  |                           |               |  |               |
| <p><b>WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT</b><br/>         (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION<br/>         (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).</p>  |  |                           |               |  |               |

**FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT**

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

January 12, 2011

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



Re: Request for Special Temporary Authority for Waiver of Section 25.283(c) for the De-Orbit of Intelsat 2, Call Sign S2459

Dear Ms. Dortch:

PanAmSat Licensee Corp. ("PanAmSat"), pursuant to Section 25.210 of the rules of the Federal Communications Commission ("FCC" or "Commission"),<sup>1</sup> herein requests Special Temporary Authority ("STA") for 30 days—from January 12, 2011 through February 10, 2011—for a waiver of Section 25.283(c) of the Commission's rules to the extent the rule requires PanAmSat to discharge all propellant remaining in the Intelsat 2 satellite (Call Sign S2459) upon de-orbiting.<sup>2</sup>

Intelsat 2 is a Boeing 601 model spacecraft, which has a liquid propulsion system that includes two helium pressurant tanks and two pairs of fuel and oxidizer tanks. The fuel and oxidizer tanks will be vented in the end-of-life shutdown procedure, but there is no mechanism for venting the helium tanks. Instead, the helium tanks were sealed by firing pyrotechnic valves shortly after launch in 1994. The helium tanks have an enclosed volume of 42.53 and 42.51 liters. PanAmSat estimates that the mass and pressure of residual helium in each tank will not exceed 129 grams and 262 psi, respectively, upon completion of de-orbit.

The Commission previously approved end-of-life maneuvers for the Intelsat 2 spacecraft in File No. SAT-MOD-20080811-00153. However, that de-orbit authority did not include a waiver of Section 25.283(c).<sup>3</sup> All other aspects of the authority granted for the de-orbit of Intelsat 2 remain accurate.

<sup>1</sup> Intelsat has filed this STA request, an FCC Form 159 and a filing fee electronically via the International Bureau's Filing System.

<sup>2</sup> 47 C.F.R. § 25.283(c) ("... a space station licensee shall ensure, unless prevented by technical failures beyond its control, that all stored energy sources on board the satellite are discharge by venting excess propellant, discharging batteries, relieving pressure vessels, and other appropriate measures.").

<sup>3</sup> On October 1, 2010, the Satellite Industry Association sought a blanket waiver of Section 25.283(c) for certain satellites, including Intelsat 2. Pleading Cycle Established for Comment on Satellite Industry Association's Blanket Waiver Request Concerning Relieving Satellite Pressure Vessels, IB Docket No. 02-54, DA 10-2291 (Dec. 14, 2010) (Public Notice).



Grant of this STA is in the public interest. Under Section 1.3 of the Commission's rules, the Commission has authority to waive its rules "for good cause shown."<sup>4</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>5</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>6</sup> As shown below, there is good cause for the requested waiver.

Waiver is appropriate in this case because grant would not undermine the purpose of these rules, which is to reduce the risk of accidental explosion and post de-orbit debris. PanAmSat will ensure that all active units on the Intelsat 2 satellite are turned off and that all propellant tanks are depleted. In addition, the satellite's manufacturer, Boeing, has designed the Intelsat 2 spacecraft so that risk of accidental explosion causing additional orbital debris is minimal. First, the risk of accidental explosions is minimized because the pressures will be very low at end of life of the satellite, especially after the spacecraft is powered down and the temperature in the tanks drops. Additionally, Boeing has designed the tanks so that they leak before they burst. If a leak were to occur, there would not be sufficient energy in the gas stream to damage structurally the spacecraft and generate debris. Moreover, a leak would not significantly perturb the satellite's orbit because the expulsion of the pressurant gas would cause the spacecraft to tumble and the change in the spacecraft's velocity (i.e., the thrust) would be randomly distributed, with the resulting impact on the satellite orbit's apogee and perigee being very small.

Grant of the waiver is also supported on hardship grounds. Intelsat 2 is an in-orbit spacecraft. As such, a design change cannot be accomplished at this time. Avoiding such hardship is particularly appropriate where, as here, the licensee acted in good faith. Specifically, the Intelsat 2 satellite was licensed, launched, and operational prior to adoption of the rule requiring discharge of

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<sup>4</sup> 47 C.F.R. § 1.3; *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

<sup>5</sup> *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990).

<sup>6</sup> *WAIT Radio*, 418 F.2d at 1159.

Ms. Marlene H. Dortch  
January 12, 2011  
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remaining fuel at end-of-life.<sup>7</sup> Under these circumstances, good cause exists to waive Section 25.283(c).<sup>8</sup>

For the reasons set forth herein, Intelsat respectfully requests that the Commission expeditiously grant this request for special temporary authority for a waiver of Section 25.283(c) of the rules for the de-orbit of the Intelsat 2 satellite.

Sincerely,

*/s/ Susan H. Crandall*

Susan H. Crandall  
Assistant General Counsel  
Intelsat Corporation

cc: Karl Kensinger  
Stephen Duall

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<sup>7</sup> The Commission's orbital debris mitigation rule requiring discharge of all propellant, Section 25.283(c), was adopted in an order released June 21, 2004 that became effective October 12, 2004. *Mitigation of Orbital Debris*, Second Report and Order, 19 FCC Rcd 11567 (2004); *Mitigation of Orbital Debris*, 69 Fed. Reg. 54581-54589 (Sept. 9, 2004).

<sup>8</sup> See *PanAmSat Licensee Corp. Amendment to Application for Modification of Authority to Launch and Operate*, SAT-AMD-20070716-00102 (filed July 16, 2007) (stamp grant with conditions Oct. 4, 2007).