

E030096 SES-STA-20100125-00114 IB2010000335  
PanAmSat Licensee Corp.

Approved by OMB  
3060-0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:  
STA for Earth Station E030096 to Provide TT&C Services for the Intelsat 16 Satellite

1. Applicant

<b>Name:</b>	PanAmSat Licensee Corp.	<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		



*with conditions*  
File # SES-STA-20100125-00114

Call Sign E030096 Grant Date 2/19/2010  
(or other identifier)

Term Dates  
From 2/21/2010 To: 3/22/2010

Approved: *[Signature]*

*Shahnaz Ghavami*

Attachment

Condition:

All operations are on a non-protected, non-interference basis.

PanAmSat shall coordinate its operations with neighboring satellites with  $\pm 6$  degrees of its orbital location.

PanAmSat shall immediately cease operations if interference is reported.

*With Conditions*

File # SES-STA-20100125-00114

Call Sign E030096 Grant Date 2/19/2010  
(or other identifier)

From 2/21/2010 To: 3/22/2010  
Term Dates

Approved: \_\_\_\_\_

*ShahmaZ Shalvami*



**2. Contact**

<b>Name:</b>	PanAmSat Licensee Corp.	<b>Phone Number:</b>	202-944-7848
<b>Company:</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	<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    CGX – Fixed Satellite Transmit/Receive Earth Station

5. Type Request

- Use Prior to Grant                       Change Station Location                       Other

6. Requested Use Prior Date

7. City Castle Rock

8. Latitude  
(dd mm ss.s h)    39    16    37.0    N

9. State CO	10. Longitude (dd mm ss.s h) 104 48 24.0 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; margin: 5px 0;">PanAmSat Licensee Corp. herein requests a grant of Special Temporary Authority for 30 days, from February 21, 2010 through March 22, 2010, to use its Castle Rock, Colorado Ku-band earth station, call sign E030096, to provide TT&amp;C services for the Intelsat 16 satellite at 48.0 W.L. while the satellite undergoes in-orbit testing, as well as during</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"; for these purposes. <span style="float: right;"><input checked="" type="radio"/> Yes      <input type="radio"/> No</span>	
14. Name of Person Signing Susan H. Crandall	15. Title of Person Signing Asst. General Counsel, Intelsat Corporation
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.**

## **12. Description**

PanAmSat Licensee Corp. herein requests a grant of Special Temporary Authority for 30 days, from February 21, 2010 through March 22, 2010, to use its Castle Rock, Colorado Ku-band earth station, call sign E030096, to provide TT&C services for the Intelsat 16 satellite at 48.0 W.L. while the satellite undergoes in-orbit testing, as well as during the drift of the satellite to and operation at its permanent location of 58.10 W.L. Intelsat 16 is expected to be launched on February 11, 2010.

January 25, 2010

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



Re: Request for Special Temporary Authority  
Castle Rock, Colorado Earth Station E030096

Dear Ms. Dortch:

PanAmSat Licensee Corp. ("PanAmSat") herein requests a grant of Special Temporary Authority ("STA")<sup>1</sup> for 30 days, from February 21, 2010 through March 22, 2010, to use its Castle Rock, Colorado Ku-band earth station -- call sign E030096 -- to provide telemetry, tracking and command ("TT&C") services for the Intelsat 16 satellite at 48.0° W.L. while the satellite undergoes in-orbit testing, as well as during the satellite's drift to and operation at its permanent location of 58.10° W.L.<sup>2</sup> Intelsat 16 is expected to be launched on February 11, 2010.

Upon launch and subject to receipt of FCC approval, Intelsat 16 will be located temporarily at 48.0° W.L. for in-orbit testing.<sup>3</sup> The satellite's permanent location ultimately will be 58.10° W.L.<sup>4</sup> The Intelsat 16 TT&C operations will be performed in the following frequency bands: 13997.5 MHz and 14499.5 MHz in the uplink and 12198.25 MHz and 12198.75 MHz in the downlink.

For 48.0° W.L., PanAmSat has coordinated the proposed TT&C operations with operators of co-frequency satellites within six degrees. During the drift from 48.0° W.L. to 58.10° W.L., PanAmSat has coordinated with operators of co-frequency satellites in the drift path. For 58.10° W.L., PanAmSat will operate the TT&C transmissions in conformance with its coordination agreements for the nominal 58.0° W.L. location, as well as with the FCC's

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<sup>1</sup> PanAmSat has filed its STA request, an FCC Form 159, a \$175.00 filing fee and this supporting letter electronically via the International Bureau's Filing System ("IBFS").

<sup>2</sup> Intelsat will shortly file an application to modify the E030096 license to add 58.10° W.L. as a point of communication.

<sup>3</sup> See *Intelsat North America LLC Request for Special Temporary Authority*, File No. SAT-STA-20100111-00007 (filed Jan. 11, 2010).

<sup>4</sup> See *Policy Branch Information; Actions Taken*, Report No. SAT-00610, File No. SAT-IOA-20080416-00085 (June 5, 2009) (Public Notice).

Ms. Marlene H. Dortch  
January 25, 2010  
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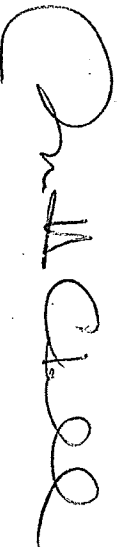
rules designed to allow co-frequency operations in a two-degree separation environment.

Operations in the 14499.5 MHz, 12198.25 MHz and 12198.75 MHz frequencies will be consistent with the antenna's licensed parameters. With respect to operations in the 13997.5 MHz frequency, PanAmSat is attaching Exhibit A, which contains technical information that demonstrates that the operation of the earth station will be compatible with its electromagnetic environment and will not cause harmful interference into any lawfully operating terrestrial facility.<sup>5</sup> In the extremely unlikely event that harmful interference should occur due to transmissions to or from its earth station, PanAmSat will take all reasonable steps to eliminate the interference.

The provision of TT&C services to the Intelsat 16 satellite at 48.0° W.L., during drift, and at 58.10° W.L. is critical to ensure the safe station-keeping of the satellite while it undergoes in-orbit testing and at its permanent location. This, in turn, will result in additional capacity at the nominal 58.0° W.L. location, and thereby promotes the public interest.

Please direct any questions regarding this STA request to the undersigned at (202) 944-7848.

Respectfully submitted,



Susan H. Crandall  
Assistant General Counsel  
Intelsat Corporation

Cc: Kathryn Medley

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<sup>5</sup> The EIRP levels for transmissions in the 13997.5 MHz frequency will be consistent with the antenna's licensed parameters.



## Exhibit A

### Compliance of Operations in the 13.75 - 14.0 GHz Band with FCC Report & Order (FCC 96-377).

#### 1. Background

This exhibit is presented to demonstrate the extent to which the PanAmSat Licensee Corp. satellite earth station in Castle Rock, CO is in compliance with FCC Report & Order 96-377. The potential interference from the earth station to U.S. Navy shipboard radiolocation operations (RADAR) and the NASA space research activities in the 13.75 - 14.0 GHz Band is addressed in this exhibit. The parameters for the earth station are:

Table 1. Earth Station Characteristics

- Coordinates (NAD83): 39° 16' 37.0" N, 104° 48' 24.0" W
- Satellite Location for Earth Station: Intelsat 16 from 48.0°W to 58.0°W
- Frequency Band: 13.9975 GHz for uplink
- Polarizations: Linear and Circular
- Emissions: 850KGT7D
- Modulation: Digital
- Maximum Aggregate Uplink EIRP: 85.0 dBW for all Carriers
- Transmit Antenna Characteristics
  - Antenna Size: 11.0 meters in Diameter
  - Antenna Type/Model: Vertex
  - Gain: 62.5 dBi
- RF power into Antenna Flange: 22.5 dBW or 23.2 dBW/ MHz  
or -0.8 dBW/4 KHz (Maximum)
- Minimum Elevation Angles:
  - Castle Rock, CO. 16.7° @ 112.5° Az. at 48.0° W.
  - 24.3° @ 120.7° Az. at 58.0° W.
- Side Lobe Antenna Gain: 32 - 25\*log(θ)

Because the above uplink spectrum is shared with the federal government, analysis of potential interference between the earth station and both Navy Department and NASA systems is required. Potential interference from the earth station could impact the Navy and/or NASA systems in two

areas. These areas are noted in FCC Order 96-377 and consist of (1) Radiolocation and radio navigation and (2) Data Relay Satellites.

Summary of Coordination Issues:

- 1) Potential Impact to Government Radiolocation (Shipboard Radar)
- 2) Potential Impact to NASA Data Relay Satellite Systems (TDRSS)

**2. Potential Impact to Government Radiolocation (Shipboard Radar)**

Radiolocation operations (RADAR) may occur anywhere in the 13.4 - 14 GHz frequency band on United States Navy ships. The FCC's 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 the Castle Rock, CO earth station is approximately 1350 km Southwest toward the Pacific Ocean.

Therefore, there should be no interference to the U.S. Navy radars from the Castle Rock, CO earth station, given the distance and terrain blockage to the shore.

**3. Potential Impact to NASA's Data Relay Satellite System (TDRSS)**

The geographic location of the earth station in Castle Rock, CO is outside the 390 km radius coordination contour surrounding NASA's White Sands, NM ground station complex. Therefore, the TDRSS space-to-earth link will not be impacted by the PanAmSat earth station in Castle Rock, CO.

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 less than 71 dBW/6 MHz in this band. The 11.0 meter earth station that is the subject of this application will not radiate in this band, as the proposed transmissions will be limited to the 13997.5 GHz frequency.

Therefore, there will be interference to the TDRSS space-to-space link.

**4. Summary and Conclusions**

The results of the analysis and calculations performed in this exhibit indicate compatible operation between the Castle Rock, CO earth station and the U.S. Navy radiolocation systems space-to-earth link are possible.

Similarly, there will be no interference above permissible FCC levels into NASA's TDRSS systems, as the intended operations are outside of the 13772.0 to 13778.0 MHz frequency range.