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File # SAT-RPL-20090123-00007  
 Call Sign S2785 Grant Date 10/01/09  
 (or other identifier) *see attached*  
 Term Dates *see attached*  
 From *conditions* To: *conditions*  
 Approved: *Stephan J. Duall*  
 Stephan J. Duall  
 Chief, Policy Branch

Approved by OMB  
 3060-0678

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

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:  
 Application to Launch and Operate Replacement Satellite Intelsat 14 at 45 W.L.

1-8. Legal Name of 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
Attention:	Susan H. Crandall		-3006

The application of PanAmSat Licensee Corp. (PanAmSat) for authority to construct, launch, and operate a C-/Ku-band Geostationary Orbit (GSO) space station, Intelsat-14, at the 45° W.L. orbit location IS GRANTED.<sup>1</sup> Accordingly, PanAmSat is authorized to operate the Intelsat-14 space station at the 45° W.L. orbital location to provide Fixed-Satellite Services in the 3700-4200 MHz (space-to-Earth) and 5925-6425 (Earth-to-space) MHz frequency bands and the 11.45-11.95 GHz (space-to-Earth) and 14.0-14.5 (Earth-to-space) GHz frequency bands, in accordance with the terms and conditions contained in its application, the Federal Communication Commission's rules not waived herein, and the conditions of this attachment.

1. PanAmSat shall 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 the ITU Radio Regulations. PanAmSat shall 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 of other administrations. See 47 C.F.R. §25.111(b).
2. 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.
3. Intelsat-14 must begin providing service at the 45° W.L. orbital location in the C- and Ku-bands before the satellite it is replacing, PAS 1R, discontinues service at the 45° W.L. orbital location
4. PanAmSat's request for waiver of Section 25.210(i), of the Commission's rules, 47 C.F.R. § 25.210(i), IS GRANTED as conditioned herein. Section 25.210(i) provides that, "Space station antennas in the Fixed-Satellite Service must be designed to provide cross-polarization isolation such that the ratio of the on axis co-polar gain to the cross-polar gain of the antenna in the assigned frequency band shall be at least 30 dB within its primary coverage area." PanAmSat

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<sup>1</sup> The application was placed on Public Notice as accepted for filing on June 19, 2009. Policy Branch Information, Satellite Space Applications Accepted for Filing, *Public Notice*, Report No. SAT00612 (rel. June 19, 2009). PanAmSat states that the Intelsat-14 space station will be a replacement for the PAS 1R space station that is currently authorized to operate at the 45° W.L orbital location in the C- and Ku-bands. The Intelsat-14 application omits certain frequency bands authorized on PAS 1R. The frequency bands that are on the PAS 1R authorization, but are not part of the Intelsat 14 application, are the 10.95-11.2 GHz and 13.75-14.0 GHz frequency bands.

indicates that the cross-polarization isolation ratio for Intelsat 14's C-band receive antenna is less than 30 dB over a limited portion of the primary coverage area of the remaining C-band receive and transmit beams and less than 30 dB over a limited portion of the primary coverage area of the Ku-band receive and transmit beams. Specifically, with the exception of the left hand and right hand circularly polarized C-band Europe-Africa receive beams and the left hand circularly polarized C-band Europe-Africa transmit beam, the cross-polarization isolation is equal to or greater than 20 dB. We find that this shortfall will not produce a significant increase in interference, except to the applicant itself, and will not adversely affect any other operator. As a condition of the waiver, PanAmSat shall claim no more protection from interference from other licensed radiocommunication systems operating in accordance with the Commission's rules than if its antennas had met Section 25.210(i) of the rules.

5. PanAmSat's request for a waiver of Section 25.210(a)(2) of the Commission's rules, C.F.R. § 25.210(a)(2), IS GRANTED, as conditioned herein. Section 25.210(a)(2) of the Commission's rules requires all space stations in the Fixed-Satellite Service in the C-band to be designed so that the polarization sense of uplink transmissions is opposite to that of downlink transmissions on the same transponder. This requirement was instituted in the C-band band plan. PanAmSat states that the polarization sense of only the C-band Americas uplink beam on Intelsat 14 may be switched upon ground command. As a result, there may be instances in which, depending on the polarization sense employed with the C-band Americas uplink beam, the operation of Intelsat 14 would not operate with opposite sense polarizations in the uplink and downlink beams. PanAmSat further indicates that PanAmSat has the capability to operate the uplink and downlink beams in opposite polarizations and will do so, if the use of the same polarization in both of these beams generates any coordination difficulty with an adjacent satellite operator. This waiver grant is based upon a finding that operations with differing uplink and downlink polarization senses is not currently necessary to protect other satellites at adjacent orbital locations from harmful interference, because the Intelsat 14 space station operations will be in compliance with existing coordination agreements, and because the only space stations operating within two degrees of Intelsat 14's proposed location are Intelsat 3R (43° W.L.), Intelsat 11 (43.1° W.L.) and Intelsat 705 (50° W.L.), all three of which are operated either by PanAmSat or its affiliate Intelsat North America, LLC. Any interference issues will be resolved internally by PanAmSat. However, as a condition of granting this waiver, PanAmSat must accommodate future satellite networks that are compliant with Section 25.210(a)(2). Further, PanAmSat must operate Intelsat 14 pursuant to any existing or future coordination agreements for this location.
6. PanAmSat's request for a waiver of Section 25.210(a)(3) of the Commission's rules, 47 C.F.R. § 25.210(a)(3), IS GRANTED, as conditioned herein. Section 25.210(a)(3) of the Commission's rules requires all space stations in the Fixed-

Satellite Service in the C-band to be capable of switching polarization sense upon ground command. The Commission requires polarity-switching capability for two reasons: 1) to provide U.S.-licensed satellites with the flexibility to operate at different orbital locations, and (2) to mitigate potential interference between adjacent fixed-satellite systems transmitting analog television signals.<sup>2</sup> This waiver grant is based upon a finding that the ability to switch polarization is not currently necessary to protect other satellites at adjacent orbital locations from harmful interference, because the Intelsat 14 space station operations will be in compliance with existing coordination agreements and because the only space stations operating within two degrees of Intelsat 14's proposed location are Intelsat 3R (43° W.L.), Intelsat 11 (43.1° W.L.) and Intelsat 705 (50° W.L.), all three of which are operated by PanAmSat or its affiliate Intelsat North America, LLC. PanAmSat indicates that it will be able to coordinate internally to minimize the impact of any intra-system interference. As a condition of granting this waiver, PanAmSat must accommodate future satellite networks that are compliant with Section 25.210(a)(3). Further, PanAmSat must operate Intelsat 14 pursuant to any existing or future coordination agreements for this location.

7. PanAmSat's request for waiver of Section 25.114(d)(3) of the Commission's rules, 47 C.F.R. 25.114(d)(3), IS GRANTED, as conditioned herein. Section 25.114(d)(3) requires each applicant to provide "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.<sup>3</sup> PanAmSat's omni antenna diagrams (Exhibits 5V, 5W, 5Y and 5Z) were not prepared in accordance with Section 25.114 (d)(3) of the Commission's Rules. PanAmSat seeks a waiver of this requirement stating that the satellite manufacturer did not provide contours in the required form because pointing of the omni antennas with respect to the Earth will vary during emergencies. Under these specific circumstances, we find that Exhibits 5V, 5W, 5Y and 5Z, 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 Intelsat 14 space station to enable the Commission to determine whether or not the Intelsat 14 space station meets the Commission's technical requirements.
8. The operation of the Intelsat-14 space station in the 11.45-11.7 GHz band is limited in the United States to international operations in accordance with footnote NG104 to the U.S. Table of Frequency Allocations, 47 C.F.R. § 2.106

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<sup>2</sup> Telesat Canada; Petition for Declaratory Ruling for of Inclusion of ANIK F3 on the Permitted Space Station List, *Order*, 22 FCC Rcd 588 (para. 10) (Int'l Bur., Sat. Div. 2007).

<sup>3</sup> SES Americom, Inc., Application for Modification of Space Station Authorization, DA 04-1581, *Order and Authorization*, 19 FCC Rcd. 20,377, 20,377-78 (paras. 4-8) (Int'l Bur., Sat. Div. 2004).

Attachment to Grant  
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October 1, 2009

NG104.

9. The license term for the space station is 15 years and will begin on the date PanAmSat 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. PanAmSat is directed to file its certification of commencement of operation with the Commission within five business days of the satellite being placed into operation at the 45° W.L. orbital location.
10. PanAmSat 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.
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 upon 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.

 <b>GRANTED*</b> International Bureau	File # <u>SAT-RPL-20090123-00007</u>
	Call Sign <u>S2785</u> Grant Date <u>10/01/09</u> (or other identifier)
	<i>see attached</i> Term Dates <i>see attached</i>
	From <u>conditions</u> To: <u>conditions</u>
	Approved: <u><i>Stephen J. Duall</i></u> Stephen J. Duall Chief, Policy Branch

\*subject to conditions

9-16. Name of Contact Representative

Name: Susan H. Crandall Phone Number: 202-944-7848

Company: c/o Intelsat Corporation Fax Number: 202-944-7870

Street: 3400 International Drive, N.W. E-Mail: susan.crandall@intelsat.com

City: Washington State: DC

Country: USA Zipcode: 20008 -3006

Attention: Susan H. Crandall Relationship: Legal Counsel

**CLASSIFICATION OF FILING**

17. Choose the buttonnext to the classification that applies to thisfiling 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.

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

b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States  b10. Replacement Satellite Application - no new frequency bands  b11. Replacement Satellite Application - new frequency bands (Not eligible for streamlined processing)  b12. Petition for Declaratory Ruling to be Added to the Permitted List (N/A) b13. Other (Please specify)

<p>17c. 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):</p>	<p>17c. Fee Classification    BNY – Space Station (Geostationary)</p>
<p>18. If this filing is in reference to an existing station, enter:          (a) Call sign of station:          Not Applicable</p>	<p>19. If this filing is an amendment to a pending application enter:          (a) Date pending application was filed:          Not Applicable          (b) File number of pending application:          Not Applicable</p>

TYPE OF SERVICE

<p>20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:</p> <p> <input checked="" type="checkbox"/> a. Fixed Satellite  <input type="checkbox"/> b. Mobile Satellite  <input type="checkbox"/> c. Radiodetermination Satellite  <input type="checkbox"/> d. Earth Exploration Satellite  <input type="checkbox"/> e. Direct to Home Fixed Satellite  <input type="checkbox"/> f. Digital Audio Radio Service  <input type="checkbox"/> g. Other (please specify)         </p>	
<p>21. STATUS: Choose the button next to the applicable status. Choose only one.</p> <p> <input type="radio"/> Common Carrier    <input checked="" type="radio"/> Non-Common Carrier         </p>	<p>22. If earth station applicant, check all that apply.</p> <p>Not Applicable</p>
<p>23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:</p> <p> <input type="radio"/> Connected to a Public Switched Network    <input type="radio"/> Not connected to a Public Switched Network    <input checked="" type="radio"/> N/A         </p>	
<p>24. FREQUENCY BAND(S): Place an "X" in the box(es) next to all applicable frequency band(s).</p> <p> <input checked="" type="checkbox"/> a. C-Band (4/6 GHz)    <input checked="" type="checkbox"/> b. Ku-Band (12/14 GHz)  <input type="checkbox"/> c. Other (Please specify upper and lower frequencies in MHz.)         </p> <p>           Frequency Lower:    Frequency Upper: (Please specify additional frequencies in an attachment)         </p>	



**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.
- f. 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 apply.) Not Applicable

**ENVIRONMENTAL POLICY**

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. Yes  No

**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.

<p>29. Is the applicant a foreign government or the representative of any foreign government?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>
<p>30. Is the applicant an alien or the representative of an alien?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A</p>
<p>31. Is the applicant a corporation organized under the laws of any foreign government?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A</p>
<p>32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned 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?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A</p>
<p>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 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?</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A</p>
<p>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.</p>	

**BASIC QUALIFICATIONS**

<p>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.</p>	<p style="text-align: right;"> <input checked="" type="radio"/> Yes   <input type="radio"/> No         </p> <p style="text-align: right;">Engineering Statement</p>
<p>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 explanation of circumstances.</p>	<p style="text-align: right;"> <input checked="" type="radio"/> Yes   <input type="radio"/> No         </p> <p style="text-align: right;">Legal Narrative</p>
<p>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 explanation of circumstances.</p>	<p style="text-align: right;"> <input type="radio"/> Yes   <input checked="" type="radio"/> No         </p>
<p>38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting 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</p>	<p style="text-align: right;"> <input type="radio"/> Yes   <input checked="" type="radio"/> No         </p>
<p>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 exhibit, an explanation of the circumstances.</p>	<p style="text-align: right;"> <input type="radio"/> Yes   <input checked="" type="radio"/> No         </p>

<p>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.</p>	<p>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"; party to the application; for these purposes.</p> <p style="text-align: right;"> <input checked="" type="radio"/> Yes    <input type="radio"/> No </p>
<p>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.</p>	<p style="text-align: right;"> <input type="radio"/> Yes    <input checked="" type="radio"/> No </p>
<p>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?</p>	

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

PanAmSat Licensee Corp. hereby applies for authority to launch and operate a replacement C/Ku-band satellite, to be known as Intelsat 14, at the 45 degree W.L. orbital location. Intelsat 14 is a replacement satellite for Intelsat 1R.

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.

A

B

C

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.

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.

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.



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