



File # SAT-MOD-20051206-0262
with attached conditions
Call Sign 52422 Grant Date 1/26/66

(or other identifier) Approved by OMB 3060-0678

From See Conditions to See Conditions

Approved [Signature] Chief Satellite Engineering Branch
Robert G. Nelson

Date & Time Filed: Dec 6 2005 2:12:15:103PM
File Number: SAT-MOD-20051206-00262

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD - MAIN FORM	FCC Use Only
FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
G12 mod to 125.10 WL (Dec 2005) - FINAL

1-8. Legal Name of Applicant

Name:	PanAmSat Licensee Corp.	Phone Number:	202-292-4300
DBA Name:		Fax Number:	202-292-4378
Street:	1801 K Street, N.W. Suite 440	E-Mail:	
City:	Washington	State:	DC
Country:	USA	Zipcode:	20006 -
Attention:	Mr Kalpak S Gude Esq		

Attachment
Conditions of Authorization
January 26, 2006

1. PanAmSat Licensee Corp.'s application, SAT-MOD-20051206-00262 (Call Sign S2422), IS GRANTED. Accordingly, PanAmSat Licensee Corp.'s authorization¹ to operate its GALAXY 12 geostationary-orbit fixed satellite at the 125.25° W.L. orbit location in the frequency bands 3700-4200 MHz (space-to-Earth) and 5925-6425 MHz (Earth-to-space), IS MODIFIED to reassign GALAXY 12 to the 125.10° W.L. orbit location. Other than the change in orbital location, the conditions contained in the prior authorization remain in effect and the GALAXY 12 satellite will operate in accordance with the terms, conditions, and technical specifications set forth in its application, this Attachment, and the Federal Communications Commission's ("Commission") Rules.
2. PanAmSat Licensee Corp. shall prepare the necessary information, as may be required, for submission to the 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 Licensee Corp. 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).
3. PanAmSat Licensee Corp. 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.
4. This grant 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. 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.

¹ IBFS File Number SAT-LOA-20000929-00136 (Call Sign S2422) as amended by SAT-AMD-20021107-00203, and later modified by SAT-MOD-20050815-00159.

9-16. Name of Contact Representative

Name:	Joseph A. Godles, Esq.	Phone Number:	202-429-4900
Company:	Goldberg Godles Wiener & Wright	Fax Number:	202-429-4912
Street:	1229 19th Street NW	E-Mail:	jgodles@g2w2.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20036-2413
Attention:	Attorney	Relationship:	Legal Counsel

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

- a1. Earth Station
- a2. Space Station

- (N/A) 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
- b5. Assignment of License or Registration
- 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
- (N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
- (N/A) b10. Other (Please specify)

<p>17c. Is a fee submitted with this application?</p> <p><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).</p> <p><input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee</p> <p><input type="radio"/> Other (please explain):</p>	
<p>17d.</p> <p>Fee Classification BFY – Space Station Modification (Geostationary)</p>	
<p>18. If this filing is in reference to an existing station, enter:</p> <p>(a) Call sign of station: S2422</p>	<p>19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:</p> <p>(a) Date pending application was filed: (b) File number: SATMOD2005081500159</p>

TYPE OF SERVICE

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:

- a. Fixed Satellite
- b. Mobile Satellite
- c. Radiodetermination Satellite
- d. Earth Exploration Satellite
- e. Direct to Home Fixed Satellite
- f. Digital Audio Radio Service
- g. Other (please specify)

21. STATUS: Choose the button next to the applicable status. Choose only one.

- Common Carrier Non-Common Carrier

22. If earth station applicant, check all that apply.

- Using U.S. licensed satellites
 Using Non-U.S. licensed satellites

23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:

- Connected to a Public Switched Network Not connected to a Public Switched Network N/A

24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).

- a. C-Band (4/6 GHz) b. Ku-Band (12/14 GHz)
 c. Other (Please specify upper and lower frequencies in MHz.)

Frequency Lower: Frequency Upper: (Please specify additional frequencies in an attachment)

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- a. Fixed Earth Station
- b. Temporary-Fixed Earth Station
- c. 12/14 GHz VSAT Network
- d. Mobile Earth Station
- e. Geostationary Space Station
- f. Non-Geostationary Space Station
- g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY:

- Transmit/Receive Transmit-Only Receive-Only N/A

"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

- a -- authorization to add new emission designator and related service
- b -- authorization to change emission designator and related service
- c -- authorization to increase EIRP and EIRP density
- d -- authorization to replace antenna
- e -- authorization to add antenna
- f -- authorization to relocate fixed station
- g -- authorization to change frequency(ies)
- h -- authorization to add frequency
- i -- authorization to add Points of Communication (satellites & countries)
- j -- authorization to change Points of Communication (satellites & countries)
- k -- authorization for facilities for which environmental assessment and radiation hazard reporting is required
- l -- authorization to change orbit location
- m -- authorization to perform fleet management
- n -- authorization to extend milestones
- o -- Other (Please specify)

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.

29. Is the applicant a foreign government or the representative of any foreign government? Yes No

30. Is the applicant an alien or the representative of an alien? Yes No N/A

31. Is the applicant a corporation organized under the laws of any foreign government? Yes No N/A

32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record 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? Yes No N/A

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 of record 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?

Yes No N/A

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.

BASIC QUALIFICATIONS

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.

Yes No

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.

Yes No

Ques 36

<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><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><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><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>	

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"; for these purposes.

Yes No

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.

Yes No

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?

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.)

Applicant herein seeks modification of its authorization to operate its Galaxy 12 spacecraft from 125.10 WL.

Engineering

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.

44. Applicant is a (an): (Choose the button next to applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Governmental Entity
- Other (please specify)

45. Name of Person Signing
Kalpak Gude

46. Title of Person Signing
Associate General Counsel

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**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).**

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERM, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to jboley@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

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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.

FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
(Technical and Operational Description)

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: GALAXY 12		e. Estimated Date of Placement into Service:	i. Will the space station(s) operate on a Common Carrier Basis:
b. Construction Commencement Date:		f. Estimated Lifetime of Satellite(s): Years	j. Number of transponders offered on a common carrier basis:
c. Construction Completion Date:		g. Total Number of Transponders:	k. Total Common Carrier Transponder Bandwidth: MHz
d1. Est Launch Date Begin:	d2. Est Launch Date End:	h. Total Transponder Bandwidth (no. transponders x Bandwidth) MHz	i. Orbit Type: Mark all boxes that apply: * <input checked="" type="checkbox"/> GSO <input type="checkbox"/> NGSO

S2. OPERATING FREQUENCY BANDS Identify the frequency range and transmit/receive mode for all frequency bands in which this station will oper
Also indicate the nature of service(s) for each frequency band.

Frequency Band Limits				e. T/R Mode	f. Nature of Service(s): List all that apply to this band
Lower Frequency (.Hz)		Upper Frequency (.Hz)			
a. Numeric	b. Unit (K/M/G)	c. Numeric	d. Unit (K/M/G)		

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 125.1 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection:
Longitudinal Tolerance or E/W Station-Keeping:		f. Inclination Excursion or N/S Station-Keeping Tolerance:	Range of orbital are in which adequate service can be provided (Optional): Degrees E/W	
d. Toward West: 0.05 Degrees	e. Toward East: 0.05 Degrees			
i. Reason for service are selection (Optional):				

**FEDERAL COMMUNICATIONS COMMISSION
 SATELLITE SPACE STATION AUTHORIZATIONS
 FCC Form 312 - Schedule S: (Technical and Operational Description)**

S4. ORBITAL INFORMATION FOR NON-GEOSTATIONARY SATELLITES ONLY

S4a. Total Number of Satellites in Network or System:

S4c. Celestial Reference Body (Earth, Sun, Moon, etc.):

S4b. Total Number of Orbital Planes in Network or System:

S4d. Orbit Epoch Date:

For each Orbital Plane Provide:

(e) Orbital Plane No.	(f) No. of Satellites in Plane	(g) Inclination Angle (degrees)	(h) Orbital Period (Seconds)	(i) Apogee (km)	(j) Perigee (km)	(k) Right Ascension of the Ascending Node (Deg.)	(l) Argument of Perigee (Degrees)	Active Service Arc Range (Degrees)		
								(m) Begin Angle	(n) End Angle	(o) Other

S5. INITIAL SATELLITE PHASE ANGLE For each satellite in each orbital plane, provide the intital phase angle.

(a) Orbital Plane No.	(b) Satellite Number	(c) Initial Phase Angle (Degrees)

NO NGSO DATA FILED

FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)

S6. SERVICE AREA CHARACTERISTICS for each service area provide:

(a) Service Area ID	(b) Type of Associated Station (Earth or Space)	(c) Service Area Diagram File Name (GXT File)	(d) Service Area Description. Provide list of geographic areas (state postal codes or ITU 3-ltr codes), satellites or Figure No. of Service Area Diagram.
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**FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)**

**Page 6: Channels and
Transponders**

S9. SPACE STATION CHANNELS For each frequency channel provide:

(a) Channel No.	(B) Assigned Bandwidth (kHz)	(c) T/R Mode	(d) Center Frequency (MHz)	(e) Polarization (H, V, L, R)	(f) TTC or Comm Channel (T or C)

S10. SPACE STATION TRANSPONDERS For each transponder provide:

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID

FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)

Page 7: Digital Modulation

S11. DIGITAL MODULATION PARAMETERS For each digital emission provide:

(a) Digital Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) No. of Phases	(e) Uncoded Data Rate (kbps)	(f) FEC Error Correction Coding Rate	(g) CDMA Processing Gain (dB)	(h) Total C/N Performance Objective (dB)	(i) Single Entry C/I Objective (dB)
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**FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
FCC Form 312 - Schedule S: (Technical and Operational Description)**

Page 10: TT and C

S14. Is the space station(s) controlled and monitored remotely? If Yes, provide the location and telephone number of the TT and C control point(s): #Error

**FEDERAL COMMUNICATIONS COMMISSION
 SATELLITE SPACE STATION AUTHORIZATIONS
 FCC Form 312 - Schedule S: (Technical and Operational Description)**

Page 11:
 Characteristics and
 Certifications

S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A
b. Are the appropriate service area coverage requirements of § 25.143(b)(ii) and (iii), or § 25.145(c)(1) and (2) met?	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A
c. Are the frequency tolerances of § 25.202(e) and the out-of-band emission limits of § 25.202(f)(1), (2) and (3) met?	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A
In addition to the information required in this Form, the space station applicant is required to provide all the information specified in Section 25.114 of the Commission's rules, 47 C.F.R § 25.114.						

Engineering Statement

PanAmSat Licensee Corp. ("PanAmSat") proposes to operate its Galaxy 12 spacecraft from 125.10° WL. Galaxy 12 will utilize the 5925 – 6425 MHz and 3700 – 4200 MHz frequency bands.

Galaxy 12 was originally licensed in March 2003 to operate from 74° WL (FCC File Nos.: SAT-LOA-20000929-00136 & SAT-AMD-20021107-00203). In March 2004, the Commission granted PanAmSat Special Temporary Authority to relocate Galaxy 12 to 125.25° WL [See FCC File No.: SAT-STA-20031224-00366]. Subsequently, in December 2004, the Commission granted PanAmSat Special Temporary Authority to relocate Galaxy 12 from 125.25° WL to 125.05° WL [See FCC File No.: SAT-STA-20041208-00216]. The spacecraft currently operates from 125.05° WL.

In October 2005, the Commission granted PanAmSat's license modification application, which had requested authority to relocate Galaxy 12 to 125.25° WL following the successful launch and operation of Galaxy 14 [See FCC File No.: SAT-MOD-20050815-00159]. PanAmSat had intended to operate Galaxy 12 at 125.25° W.L. to serve as an in-orbit back-up for the western edge of the U.S. arc. Shortly before PanAmSat's license modification application was granted, however, a determination was made to decommission SBS-4, which had been located at 124.95° W.L. This determination meant that PanAmSat would have additional stationkeeping flexibility, because it would only be operating two satellites in the vicinity of 125° WL (*i.e.*, Galaxy 12 and Galaxy 14) rather than three satellites (*i.e.*, SBS-4, Galaxy 12 and Galaxy 14). Following an evaluation of its options, PanAmSat determined that it could optimize stationkeeping by locating Galaxy 12 at 125.10° WL and Galaxy 14 at 125.0° WL. Accordingly, PanAmSat proposes herein to operate Galaxy 12 from 125.10° WL. (PanAmSat is filing a separate modification application seeking authority to operate Galaxy 14 from 125.0° WL.)

To take the impact of this proposed change in orbital location into account, this engineering statement updates, as appropriate, the following technical information that PanAmSat had previously submitted (for the 125.25° WL orbital location): (1) gain contours, (2) PFD levels and (3) link budget and interference analysis.

Gain Contours

The coverage patterns for Galaxy 12 operating from the 125.25° WL orbital location were previously submitted in SAT-MOD-20050815-00159. The coverage patterns for Galaxy 12 operating from the proposed 125.10° WL orbital location are the same as those contained in SAT-MOD-20050815-00159. Changing the proposed orbital location from 125.25° WL to 125.10° WL will produce no visible change in the gain contours. Accordingly, no new beam gain contours are being submitted.

Power Flux Density Levels

The power flux density ("PFD") levels at the Earth's surface produced by Galaxy 12 operating from the proposed 125.10° WL orbital location are presented in Exhibit 1.

Link Budget and Interference Analysis

The operational co-frequency satellites nearest to the proposed 125.10° WL orbital location are Galaxy 10R, located at 123° WL, and Galaxy 13, located at 127° WL. Galaxy 10R and Galaxy 13 are licensed to PanAmSat. The operating parameters of Galaxy 10R and Galaxy 13 are specified in FCC File Nos. SAT-LOA-19990518-00054 and SAT-LOA-19991207-00118 (SAT-AMD-20030228-00020), respectively.

An earth station receiving transmissions from Galaxy 10R and having antenna off-axis gain characteristics that are in compliance with Section 25.209(a)(1) of the FCC Rules would have an off-axis gain of 20.2 dBi in the direction of Galaxy 12 operating from 125.25° WL. With Galaxy 12 operating from 125.10° WL, the off-axis gain of the receiving earth station would be 20.9 dBi. Hence there would be a resulting increase in the off-axis gain of the earth station antenna of 0.7 dB. Such an increase in the off-axis gain will not significantly change the interference environment of Galaxy 10R receiving earth stations. Similarly, the potential for interference from Galaxy 10R transmissions into Galaxy 12 receive earth stations would be substantially unchanged (0.7 dB variation).

With respect to an earth station receiving transmissions from Galaxy 13, the off-axis antenna gain of the receiving antenna would be reduced from 22.9 dBi to 22.0 dBi – a decrease of 0.9 dB. Such a decrease in the off-axis gain of the Galaxy 13 receive earth station will not significantly change the interference environment of Galaxy 13 receiving earth stations. Similarly,

the potential for interference from Galaxy 13 transmissions into Galaxy 12 receiving earth stations would be substantially unchanged (0.9 dB variation).

Given that the proposed relocation of Galaxy 12 would not result in any significant change to the interference environment as it pertains to Galaxy 12, Galaxy 10R and Galaxy 13, no link budget analysis is provided herein. In any case, given that Galaxy 10R, Galaxy 13 and Galaxy 12 are all licensed to PanAmSat, in the unlikely event that Galaxy 12 operating from 125.10° WL were to adversely affect the transmissions from Galaxy 10R and/or Galaxy 13, PanAmSat would take appropriate actions to resolve the matter through internal coordination.

Schedule S Submission

PanAmSat is providing a Schedule S with its application. The Schedule S contains only: (1) those Galaxy 12 data items that have changed from those that were shown in the Schedule S for SAT-MOD-20050812-00159; and (2) data items whose inclusion was required in order for the software application to function properly. The Schedule S does not, however, contain a link analysis for Galaxy 12 at the 125.10° WL orbital location, because there would be no significant change in the Galaxy 12 links from this location as compared to those associated with 125.25° WL, which were provided in SAT-MOD-20050815-00159. Additionally, no contour gain patterns have been included in the Schedule S since there is no significant change from the coverage patterns already provided for Galaxy 12 (at 125.25° WL) in SAT-MOD-20050815-00159.

Certification Statement

I hereby certify that I am a technically qualified person and am familiar with Part 25 of the Commission's Rules and Regulations. The contents of this engineering statement were prepared by me or under my direct supervision and to the best of my knowledge are complete and accurate.

/s/ Abdolmajid Khalilzadeh
Abdolmajid Khalilzadeh
PanAmSat Corporation
Senior Manager, Asset Engineering

December 2, 2005
Date

EXHIBIT 1: POWER FLUX DENSITY CALCULATIONS

Digital Carrier

Elevation Angle (degrees)	0	5	10	15	20	25	90
Assumed EIRP (dBW)	44.2	44.2	44.2	44.2	44.2	44.2	44.2
Spreading loss (dB/m ²)	163.4	163.3	163.2	163.0	162.9	162.8	162.1
Maximum PFD (dB/m ² /4kHz) (30.133 MHz Digital Carrier)	-158	-157.8	-157.8	-157.6	-157.5	-157.4	-156.6
PFD Limit (dB/m ² /4kHz)	-152	-152	-149.5	-147	-144.5	-142	-142

Analog TV Carrier

Elevation Angle (degrees)	0	5	10	15	20	25	90
Assumed EIRP (dBW)	41.3*	41.3*	43.7	43.7	43.7	43.7	43.7
Spreading loss (dB/m ²)	163.4	163.3	163.2	163.0	162.9	162.8	162.1
Maximum PFD (dB/m ² /4kHz) (36 MHz Analog TV 4MHz EDS)	-152.1	-152.0	-149.5	-149.3	-149.2	-149.1	-148.4
PFD Limit (dB/m ² /4kHz)	-152	-152	-149.5	-147	-144.5	-142	-142

* These are the maximum EIRP values at 0° and 5° for a beam-peak EIRP of 43.7 dBW. Therefore, for TV/FM carriers, the EIRP would have to be reduced by 0.5 dB from its maximum of 44.2 dBW.

TT&C (OMNI)

Elevation Angle (degrees)	0	5	10	15	20	25	90
Assumed EIRP (dBW)	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Spreading loss (dB/m ²)	163.4	163.3	163.2	163.0	162.9	162.8	162.1
Maximum PFD (dB/m ² /4kHz) (250 kHz Digital Carrier)	-175.5	-175.4	-175.4	-175.2	-175.1	-175.0	-174.2
PFD Limit (dB/m ² /4kHz)	-152	-152	-149.5	-147	-144.5	-142	-142

TT&C (WCA)

Elevation Angle (degrees)	0	5	10	15	20	25	90
Assumed EIRP (dBW)	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Spreading loss (dB/m ²)	163.4	163.3	163.2	163.0	162.9	162.8	162.1
Maximum PFD (dB/m ² /4kHz) (250 kHz Digital Carrier)	-176.5	-176.4	-176.4	-176.2	-176.1	-176.0	-175.2
PFD Limit (dB/m ² /4kHz)	-152	-152	-149.5	-147	-144.5	-142	-142

TT&C (Reflector)

Elevation Angle (degrees)	0	5	10	15	20	25	90
Assumed EIRP (dBW)	20	20	20	20	20	20	20
Spreading loss (dB/m ²)	163.4	163.3	163.2	163.0	162.9	162.8	162.1
Maximum PFD (dB/m ² /4kHz) (250 kHz Digital Carrier)	-161.3	-161.2	-161.2	-161.0	-160.9	-160.8	-160.0
PFD Limit (dB/m ² /4kHz)	-152	-152	-149.5	-147	-144.5	-142	-142

PanAmSat Orbital Debris Mitigation Plan

PanAmSat is proactive in ensuring safe operation and disposal of this and all spacecraft under its control. The four elements of debris mitigation are addressed below:

Spacecraft Hardware Design: The spacecraft is designed such that no debris will be released during normal operations. PanAmSat has assessed the probability of collisions with meteoroids and other small debris (<1 cm in diameter) and has taken the following steps to limit the effects of such collisions: (1) critical spacecraft components are located inside the protective body of the spacecraft and properly shielded; and (2) all spacecraft subsystems have redundant components to ensure no single-point failures. The spacecraft does not use any subsystems for end-of-life disposal that are not used for normal operations.

Minimizing Accidental Explosions: PanAmSat has assessed the probability of accidental explosions during and after completion of mission operations. The spacecraft is designed in a manner to minimize the potential for such explosions. Propellant tanks and thrusters are isolated using redundant valves and electrical power systems are shielded in accordance with standard industry practices. At the completion of the mission, and upon disposal of the spacecraft, PanAmSat will ensure the removal of all stored energy on the spacecraft by depleting all propellant tanks, venting all pressurized systems, isolating the batteries from the spacecraft bus, and turning off all active units.

Safe Flight Profiles: PanAmSat has assessed and limited the probability of the space station becoming a source of debris as a result of collisions with large debris or other operational space stations. Except as stated below, Galaxy 12 will not be located at the same orbital location as another satellite or at an orbital location that has an overlapping stationkeeping volume with another satellite.

The proposed orbital location for Galaxy 12 is 125.10° W.L., and PanAmSat is filing a modification application proposing to locate Galaxy 14 at 125° W.L. PanAmSat will coordinate the stationkeeping of these two satellites, which will have tangent – but not overlapping – stationkeeping volumes. SES Americom has been authorized to launch and operate AMC-21 at 125° W.L. PanAmSat will coordinate with SES Americom with respect to the stationkeeping of PanAmSat's satellites and the stationkeeping of AMC-21. PanAmSat is not aware of any other FCC licensed system, or any other system applied for and under consideration by the FCC, having an overlapping stationkeeping volume with Galaxy 12. PanAmSat also is not aware of any system having an overlapping stationkeeping volume with Galaxy 12 that is the subject of an ITU filing and that is either in orbit or progressing towards launch.

Post-Mission Disposal: At the end of the mission, PanAmSat will dispose of the spacecraft by moving it to a minimum altitude of 300 km above the GEO arc. This exceeds the minimum altitude established by the IADC formula. PanAmSat has reserved 5.4 kg of fuel for this purpose. The reserved fuel figure was determined by the spacecraft manufacturer and provided for in the propellant budget. To calculate this figure, the manufacturer used the "rocket equation," *i.e.*, it plugged in the expected mass of the satellite at end of life and the required delta-velocity to achieve the desired orbit. PanAmSat has assessed fuel gauging uncertainty and has provided an adequate margin of fuel reserve to address the assessed uncertainty in remaining propellant.

In calculating the disposal orbit, PanAmSat has used simplifying assumptions as permitted under the Commission's Orbital Debris Report and Order. For reference, the effective area to mass ratios ($Cr \cdot A/M$) of the spacecraft in PanAmSat's fleet are all less than or equal to 0.04198, resulting in a minimum perigee disposal altitude under the IADC formula of at most 277.0 km above GEO, which is lower than the 300 km above GEO disposal altitude specified by PanAmSat in this filing.

Exhibit B
Response to Item 36
Regarding Cancelled Authorizations

PanAmSat Licensee Corp. ("PanAmSat") never has had an FCC license "revoked." However, on June 26, 2000, the International Bureau "cancelled" two Ka-band satellite authorizations issued to PanAmSat, based on the Bureau's finding that PanAmSat LC had not satisfied applicable construction milestones. *See In re PanAmSat Licensee Corp.*, Memorandum Opinion and Order, DA 00-1266, 15 FCC Rcd 18720 (IB 2000). In that same order, the Bureau denied related applications to modify the cancelled authorizations. PanAmSat filed an application for review of the Bureau's decision, which the Commission denied, and subsequently filed an appeal with the United States Court of Appeals for the District of Columbia Circuit, which was dismissed in January 2003 at PanAmSat's request. Notwithstanding the fact that the Bureau's action does not seem to be the kind of revocation action contemplated by question 36, PanAmSat is herein making note of the decision in the interests of absolute candor and out of an abundance of caution.

In any event, the Bureau's action with respect to PanAmSat does not reflect on its basic qualifications, which are well-established and a matter of public record.