

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of

Intelsat North America LLC

Application for Authority to Launch and Operate Intelsat 17, a Replacement Satellite With New Frequencies, at 66.0° E.L.

File No. SAT-RPL- _____

**APPLICATION FOR AUTHORITY TO LAUNCH AND OPERATE
INTELSAT 17, A REPLACEMENT SATELLITE WITH NEW FREQUENCIES,
AT 66.0° E.L.**

Intelsat North America LLC (“Intelsat”), pursuant to Section 25.114 of the Federal Communications Commission’s (“FCC” or “Commission”) rules,¹ hereby applies to launch and operate a replacement C/Ku-band satellite, to be known as Intelsat 17, at the 66.0° E.L. orbital location. Intelsat 17 is scheduled for launch on an Ariane 5 vehicle in the fourth quarter of 2010 or first quarter of 2011 timeframe and will replace the Intelsat 702 satellite (call sign S2388), which is currently operating at 66.0° E.L.² Intelsat 17 will operate on a non-common carrier basis.³

¹ 47 C.F.R. § 25.114.

² See *Intelsat North America LLC Application to Modify Authorization to Relocate and Operate Intelsat 702 at 66.0° E.L.*, File No. SAT-MOD-20081217-0023 (filed Dec. 17, 2008) (grant stamped with conditions Apr. 7, 2009). During traffic transition, Intelsat 702 and Intelsat 17 will occupy the same station-keeping box. Following traffic transition, and subject to receipt of FCC approval, Intelsat 702 will be redeployed to a different location. Intelsat will file an application to relocate the Intelsat 702 satellite as soon as possible after determining a redeployment plan that best meets customer needs.

³ Section 310(b) is not applicable to this license because Intelsat 17, like all other satellites licensed to Intelsat, will operate on a non-common carrier basis. See *Applications of The News Corp. Ltd. and The DIRECTV Group, Inc. (Transferors)* and

As demonstrated below, Intelsat is legally and technically qualified to launch and operate its proposed replacement satellite. Moreover, grant of this application will serve the public interest by ensuring continuity of service to customers at 66.0° E.L. In accordance with the Commission’s requirements,⁴ this application has been filed electronically as an attachment to FCC Form 312 and Schedule S.

I. INTELSAT IS QUALIFIED TO HOLD THE REPLACEMENT AUTHORIZATION REQUESTED HEREIN

A. Legal Qualifications

Intelsat is legally qualified to hold the replacement space station authorization requested in this application. The information provided in the attached Form 312 demonstrates Intelsat’s compliance with the Commission’s basic legal qualifications. In addition, Intelsat already holds multiple Commission satellite licenses, and its “legal qualifications are a matter of record” before the Commission.⁵

B. Technical Qualifications

In the attached Form 312, Schedule S, and Engineering Statement, Intelsat demonstrates that it is technically qualified to hold the authorization requested herein. Specifically, Intelsat provides the information currently required by Section 25.114 of the

Constellation, LLC, Carlyle PanAmSat I, LLC, Carlyle PanAmSat II, LLC, PEP PAS, LLC and PEOP PAS, LLC (Transferees) for Authority to Transfer Control of PanAmSat Licensee Corp., Public Notice, 19 FCC Rcd 15,424, 15,425 (n.5) (Int’l Bur. 2004).

⁴ 47 C.F.R. § 25.114(c).

⁵ See *Constellation, LLC, Carlyle PanAmSat I, LLC, Carlyle PanAmSat II, LLC, PEP PAS, LLC, and PEOP PAS, LLC, Transferors and Intelsat Holdings, Ltd., Transferee, Consolidated Application for Authority to Transfer Control of PanAmSat Licensee Corp. and PanAmSat H-2 Licensee Corp.*, Memorandum Opinion and Order, FCC 06-85, ¶ 23 (rel. June 19, 2006) (“The Commission previously has determined that PanAmSat and Intelsat are qualified to hold licenses.”).

Commission's rules. In addition, the Engineering Statement provides information on Intelsat's compliance with the Commission's orbital debris mitigation rules.⁶

C. Waiver Requests

Intelsat requests waiver of the following technical rules:

- (1) Section 25.114(d)(3), which requires a specific format for the presentation of space station contours;
- (2) Section 25.210(i)(1), which specifies cross polarization isolation requirements within the primary coverage area; and
- (3) Section 25.202(g), which requires telemetry, tracking and telecommand functions to be allocated at the band edge.

Under Section 1.3 of the Commission's rules, the Commission has authority to waive its rules "for good cause shown."⁷ 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.⁸ In determining whether waiver is appropriate, the Commission should "take into account considerations of hardship, equity, or more effective implementation of overall policy."⁹ As shown below, there is good cause for each of the requested technical waivers.

1. Request for Waiver of Section 25.114(d)(3)

Intelsat requests a waiver of Section 25.114(d)(3), which requires that the space station antenna gain contour(s) for each transmit and receive antenna beam be plotted on an area map at 2 dB intervals down to 10 dB below peak value of the parameter and at 5

⁶ *Mitigation of Orbital Debris*, Second Report and Order, 19 FCC Rcd 11,567 (2004).

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

⁸ *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990).

⁹ *WAIT Radio*, 418 F.2d at 1159.

dB intervals between 10 dB and 20 dB below peak values. Intelsat requests a waiver of Section 25.114(d)(3) with respect to Intelsat 17's Landmass and Europe-Middle East beam cross-polarization diagrams (Exhibit 5BB-1 through 5BB-6 of the Engineering Statement), wide-beam and medium-beam antenna gain diagrams (Exhibits 5V, 5W, 5Y, and 5Z of the Engineering Statement), and the C-band and Ku-band ULPC antenna gain diagrams (Exhibits 5AA-1, 5AA-2 and 5AA-3 of the Engineering Statement).

Good cause exists for granting these waivers of Section 25.114(d)(3). First, as explained more fully on page 9 of the attached Engineering Statement, although the satellite manufacturer did not provide the cross-polarization contours of the Landmass and Europe-Middle East beams in the format prescribed in Section 25.114(d)(3) for the Landmass and Europe-Middle East beam diagrams, Intelsat provides the beam patterns provided by the manufacturer. Second, as explained more fully on pages 14-15 of the attached Engineering Statement, for the wide-beam and medium-beam antenna gain diagrams the satellite manufacturer does not provide the beam patterns in the required form because the pointing of these omni-directional antennas with respect to the Earth will vary during an emergency situation. However, Intelsat provides a descriptive characterization of these beams in Section 2.7.1 of the Engineering Statement. Third, as explained more fully on pages 18-19 of the attached Engineering Statement, for the C-band and Ku-band ULPC antenna gain diagrams satellite manufacturers typically do not provide the patterns in the required form, though Intelsat provides a descriptive characterization of these beams in Section 2.8.1 of the Engineering Statement. To the extent necessary, there is good cause to waive Section 25.114(d)(3) because in these three cases Intelsat's descriptive characterization coupled with the beam patterns provided by

the manufacturer fulfill the information requirements of Section 25.114(d)(3). In addition, granting the requested waiver would be consistent with precedent. The FCC has previously waived Section 25.114(d)(3) in similar circumstances.¹⁰

2. Request for Waiver of Section 25.210(i)(1)

Intelsat also requests waiver of Section 25.210(i)(1) of the Commission's rules. Section 25.210(i)(1) requires that satellites be designed to provide a cross-polarization isolation such that the ratio of the on-axis co-polar gain to the on-axis cross-polar gain of the antenna in the assigned frequency band will be at least 30 dB within its primary coverage area. As explained more fully on pages 8-9 and Exhibits 5BB-1 through 5BB-6 of the attached Engineering Statement, the 30 dB requirement is not met within a limited portion of the coverage areas of the Intelsat 17's Landmass and Europe-Middle East receive and transmit beams.

Good cause exists to waive the cross-polarization isolation requirement of Section 25.210(i)(1) because a failure to meet the requirement does not adversely affect any other operator.¹¹ The FCC previously has acknowledged that non-compliance results only in self-interference and granted waivers to other operators in similar situations.¹² In this

¹⁰ See *Intelsat North America LLC Application for Authority to Launch and Operate Intelsat 15, a Ku-band Replacement Satellite at 85.15° E.L.*, File No. SAT-LOA-20090410-00043 and SAT-AMD-20090528-00059 (stamp grant with conditions Nov. 25, 2009).

¹¹ See *AMC-15 Ku-Band Circular Polarization Amendment*, File No. SAT-AMD-20030422-00069, Attachment Terms and Conditions of Authorization (¶ 5) (Aug. 18, 2004).

¹² See, e.g., *Applications of INTELSAT LLC; For Authority to Operator, and to Further Construct, Launch, and Operate C-band and Ku-band Satellites that Form a Global Communications System in Geostationary Orbit*, 15 FCC Rcd 15,460, 15,503 (¶ 109) (2000); *New Skies Satellites N.V.; Petition for Declaratory Ruling*, Order, 17 FCC Rcd 10,369, 10,376-377 (¶ 19) (2002); *Star One S.A. Petition for Declaratory Ruling to Add the Star One CI Satellite at 65° W.L. to the Permitted Space Station List*, Order, 19 FCC Rcd 16,334, 16,339 (¶ 12) (2004).

case, the level of isolation the non-compliant Intelsat 17 beams is equal to or greater than 22 dB. This level was the best that the satellite manufacturer could achieve without causing excessive degradation in the co-polarized gain of the beam and/or in the size of its coverage area. Intelsat has taken this level of isolation into account in its planned operations. Accordingly, Commission precedent supports a grant of Intelsat's requested waiver of Section 25.210(i)(1) for Intelsat 17.

3. Request for Waiver of Section 25.202(g)

To the extent necessary, Intelsat requests a waiver of Section 25.202(g) with respect to the proposed use of command functions on the 6173.7 MHz and 6176.3 MHz frequencies and telemetry on the 3947.5 MHz and 3952.5 MHz frequencies. Section 25.202(g) requires telemetry, tracking and telecommand functions to be "conducted at either or both edges of the allocated band(s)."¹³ As noted in the Engineering Statement, the command and telemetry frequencies of Intelsat 17 are located in the middle, not the edge, of the allocated C-band.

In this case, waiving Section 25.202(g) better serves the public interest than strict adherence to the rule. The specific command and telemetry channels were chosen for Intelsat 17 so as to minimize any corresponding hardware impact on Intelsat's ground control stations. Intelsat 17 is replacing Intelsat 702, which also has a waiver of 25.202(g) to permit use of center band TT&C frequencies.¹⁴ Moreover, Intelsat 17 will be operating from an orbital location that does not have view of the United States and

¹³ 47 C.F.R. § 25.202(g).

¹⁴ *Applications of Intelsat LLC for Authority to Operate and to Further Construct, Launch and Operate C-band and Ku-band Satellites that Form a Global Communications System in Geostationary Orbit*, Memorandum Opinion Order and Authorization, 15 FCC Rcd 15460 at Appendix C (2000).

where the command and telemetry frequencies of other adjacent satellites may or may not be located at the edge of the operating band. In such cases, TT&C related transmissions are addressed through normal coordination agreements with other affected satellite operators.

Grant of a waiver in this case will also not undermine the purpose of the rule. The requirement in Section 25.202(g) to put telemetry and command frequencies at band-edge is intended “to minimize interference potential between satellites”.¹⁵ In this case, the satellites using C-band frequencies that are nearest to the proposed Intelsat 17 satellite at 66° E.L. are: Intelsat 702 at 66° E.L. (call sign S2388),¹⁶ Intelsat 10 at 68.5° E.L. (call sign S2382),¹⁷ Intelsat 7 at 68.65° E.L. (call sign S2229),¹⁸ Intelsat 906 at 64.15° E.L. (call sign S2410)¹⁹ and Inmarsat 3F1 at 64.5° E.L. Intelsat can internally monitor and coordinate any interference to the adjacent Intelsat 702, Intelsat 10, Intelsat 7 and Intelsat 906 satellites. In addition, operation of the Intelsat 17 command and telemetry

¹⁵ *Amendment of Part 25 of the Commission’s Rules and Regulations to Reduce Alien Carrier Interference Between Fixed-Satellites at Reduced Orbital Spacings and to Revise Application Processing Procedures for Satellite Communication Services*, Second Report and Order and Further Notice of Proposed Rulemaking, 8 FCC Rcd 1316, 1317 (¶ 6) (1993).

¹⁶ *Modification Application of Intelsat North America to Relocate and Operate Intelsat 702 at 66.0 E.L. (S2388)*, SAT-MOD-20081217-00233 (filed Dec. 17, 2008, stamp grant with conditions Apr. 7, 2009).

¹⁷ *PanAmSat Licensee Corp. Application for Authority to Launch and Operate PAS-24*, SAT-LOA-19991119-00112 (filed Nov. 19, 1999, granted July 3, 2001) (granting authority for PAS-24 to operate at 68.5° E.L.). PAS-24 has since been renamed Intelsat 10. See Letter to Marlene H. Dortch, Secretary, Federal Communications Commission, from Susan Crandall, Assistant General Counsel, Intelsat Corp. (dated Jan. 8, 2006).

¹⁸ *PanAmSat Licensee Corp. Modification Application for PAS-21 from 68.5 E.L. to 68.65 E.L.*, File No. SAT-MOD-20040405-00078 (filed Apr. 5, 2004; grant June 15, 2004).

¹⁹ *Intelsat LLC Modification Application for Intelsat 906*, SAT-MOD-20020806-00147 (filed Aug. 6, 2002; granted Oct. 4, 2002) (authorizing deployment of Intelsat 906 at 64.15° E.L.).

frequencies has been coordinated with Inmarsat. For these reasons, good cause exists to waive Section 25.202(g) to permit operation of Intelsat 17's telemetry and command frequencies at the middle of the allocated C-band.

D. Operational Frequencies

Intelsat 17 will operate in the following C- and Ku-band frequencies:

3625-4200 MHz
5850-6425 MHz
10950-11200 MHz
11450-11700 MHz
12500-12750 MHz
13750-14500 MHz

Intelsat 702, the satellite that Intelsat 17 is replacing, operates in the following C- and Ku-band frequencies:

3700-4200 MHz
5925-6425 MHz
10950-11200 MHz
11450-11700 MHz
11700-11950 MHz
12500-12750 MHz
14000-14500 MHz

Thus, all of the existing frequencies on Intelsat 702 are also on Intelsat 17. In addition, Intelsat 17 contains new frequencies at 3625-3700 MHz, 5850-5925 MHz and 13750-14000 MHz that are not on Intelsat 702 satellite.

E. Milestone Demonstration and Request for Bond Reduction

Intelsat 17 will be subject to the milestone and bond posting requirements set forth in Sections 25.164 and 25.165 of the Commission's rules because the 3625-3700 MHz, 5850-5925 MHz and 13750-14000 MHz frequencies are included on Intelsat 17 but are not on the Intelsat 702 satellite it is replacing.²⁰

²⁰ 47 C.F.R. §§ 25.164 and 25.165.

In accordance with Section 25.164(c)-(e) of the Commission's rules,²¹ Intelsat North America is providing with this application the following documentation to demonstrate that it has met the first three milestones required of a geostationary satellite:

- (1) a confidential copy of its construction contract (along with a request for confidential treatment under Section 0.457 and 0.459 of the FCC's rules²²);
- (2) a signed statement from Paradesia Damodharan, Senior Executive Director, Intelsat Programs of Space Systems Loral, attesting to completion of Critical Design Review and attesting that physical construction of the satellite has commenced.
- (3) a signed statement from Jean-Luc Froeliger, Senior Director, Space Systems Acquisition, of Intelsat that as of June 25, 2010, Intelsat actually paid 83% of the pre-launch commitments to the spacecraft manufacturer, Space Systems Loral; and
- (4) photographs evidencing that physical construction of the satellite has commenced.

The Commission allows GSO licensees to reduce their bond amounts by 25 percent each time they meet a satellite milestone.²³ Accordingly, Intelsat requests that the Commission determine that the first three milestones for Intelsat 17 have been satisfied and reduce the \$3,000,000 bond amount by 75 percent to \$750,000.

²¹ 47 C.F.R. § 25.164(c)-(e).

²² 47 C.F.R. §§ 0.457 and 0.459.

²³ 47 C.F.R. § 25.165(d); Amendment of the Commission's Space Station Licensing Rules and Policies, First Report and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 10760, ¶ 172 (2003); Amendment of the Commission's Space Station Licensing Rules and Policies, First Order on Reconsideration and Fifth Report and Order, 19 FCC Rcd 12637, ¶ 48 (2004) (reducing GSO bond requirement to \$3 million but noting that "GSO licensees will continue to be allowed to reduce their bond amount by 25 percent each time they meet a milestone."); Star One S.A., Petition for Declaratory Ruling to Add the Star One C1 Satellite a 65° W.L. to the Permitted Space Station List, 19 FCC Rcd 16334, ¶ 15 (Int'l Bur. 2004) ("Licensees may reduce the amount of the bond upon meeting each milestone.").

II. GRANT OF THIS APPLICATION WILL SERVE THE PUBLIC INTEREST

The Commission recognizes a “replacement expectancy” in orbital locations in order to protect the large investments made by satellite operators. The agency has stated,

[G]iven the huge costs of building and operating satellite space stations, there should be some assurance that operators will be able to continue to serve their customers. The Commission has therefore stated that, when the orbit location remains available for a U.S. satellite with the technical characteristics of the proposed replacement satellite, it will generally authorize the replacement satellite at the same location.²⁴

In this case, Intelsat holds a replacement expectancy for the 66.0° E.L. orbital location because the Commission authorized Intelsat to operate Intelsat 702 at that location.²⁵ As demonstrated in the attached Engineering Statement and FCC Form 312, Schedule S, Intelsat 17 is technically consistent with Intelsat 702.²⁶

In addition, grant of this application will serve the public interest by ensuring continuity of service to consumers from the nominal 66.0° E.L. orbital location. Intelsat

²⁴ *Columbia Communications Corporation Authorization to Launch and Operate a Geostationary C-band Replacement Satellite in the Fixed-Satellite Service at 37.5° W.L.*, Memorandum Opinion and Order, 16 FCC Rcd 20176, ¶ 7 (2001) (citing *Assignment of Orbital Locations to Space Stations in Domestic Fixed-Satellite Service*, Memorandum Opinion and Order, 3 FCC Rcd 6972, n.31 (1988) and *GE American Communications, Inc.*, Order and Authorization, 10 FCC Rcd 13775, ¶ 6 (Int’l Bur. 1995)).

²⁵ See *Intelsat North America LLC Application to Modify Authorization to Relocate and Operate Intelsat 702 at 66.0° E.L.*, File No. SAT-MOD-20081217-0023 (filed Dec. 17, 2008) (grant stamped with conditions Apr. 7, 2009).

²⁶ *Amendment of the Commission's Space Station Licensing Rules and Policies*, 18 FCC Rcd 10760 ¶ 257 (2003) (“We do not require replacement satellites to be technically ‘identical’ to the existing satellite. We recognize that next-generation satellites will incorporate satellites with technical advancements made since the previous generation satellite was launched. We do not intend to change this policy, which facilitates state-of-the-art systems. Rather, we will continue to assess only whether operations of the replacement satellite will be consistent with our international coordination obligations pursuant to regulations promulgated by the International Telecommunication Union.”) (internal citations omitted).

stands ready to deploy a replacement satellite to the 66.0° E.L. orbital location before Intelsat 702 reaches the end of its useful life or is relocated, and, as noted above, has made concrete steps toward constructing Intelsat 17.

The Commission has stated that granting replacement applications ensures that service will be provided to consumers as efficiently as possible because the current licensee will be familiar with the service requirements and, given its experience, should be able to deploy a replacement satellite in the shortest possible time.²⁷ Moreover, Intelsat 17 will also offer expanded capacity to customers at the 66.0° E.L. orbital location. This expansion of capacity also serves the public interest.

III. INTELSAT ACCEPTS SECTION 316 PETITION CONDITIONS

Intelsat understands and accepts that its license to operate Intelsat 17 at 66.0° E.L., with the exception of the 3625-3700 MHz, 5850-5925 MHz and 13750-14000 MHz frequencies, will be conditioned as follows:

- (a) Intelsat shall remain a signatory to the Public Services Agreement between Intelsat and the International Telecommunications Satellite Organization (“ITSO”) that was approved by the ITSO Twenty-fifth Assembly of Parties, as amended.
- (b) No entity shall be considered a successor-in-interest to Intelsat under the ITSO Agreement for licensing purposes unless it has undertaken to perform

²⁷ See *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands*, 18 FCC Rcd 1962, ¶ 83 (2003) (“Repairing or even replacing a malfunctioning satellite, for all its complexity, requires less time than designing and constructing a new system. Even in the worst case where a satellite is destroyed, a licensee can ordinarily replace a lost satellite with a ground spare at the next available launch window, or procure a technically identical satellite in an expedient manner since it would have already completed the complex design process.”).

the obligations of the Public Services Agreement approved by the Twenty-fifth Assembly of Parties, as amended.²⁸

IV. ITU COST RECOVERY

Intelsat is aware that processing fees are currently charged by the ITU for satellite filings, and that Commission applicants are responsible for any and all fees charged by the ITU.²⁹ Intelsat is aware of and unconditionally accepts this requirement and responsibility to pay any ITU cost recovery fees associated with the ITU filings that the Commission makes on behalf of Intelsat for the satellite proposed in this Application, as well as any ITU filings associated with any satellite system for which Intelsat may request authorization at a later date.

V. CONCLUSION

Based on the foregoing, Intelsat respectfully requests that the Commission grant this replacement satellite application.

Respectfully submitted,

/s/ Susan H. Crandall

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July 22, 2010

²⁸ See *Petition of the Int'l. Telecomms. Satellite Org. under Section 316 of the Commc'ns Act*, as amended, IB 06-137, File No. SAT-MS-20060710-00076, Order of Modification, 23 FCC Rcd 2764, 2769-71 (¶¶11-13)(Int'l Bur. 2008).

²⁹ See *Implementation of ITU Cost Recovery Charges for Satellite Network Filings*, Public Notice, DA 01-2435 (Oct. 19, 2001).

Exhibit A
FCC Form 312, Response to Question 34: Foreign Ownership

The Commission previously approved the foreign ownership in Intelsat North America LLC (“Intelsat”). See *Intelsat Holdings, Ltd. and Serafina Holdings Limited, Consolidated Application for Consent to Transfer of Control of Holders of Title II and Title III Authorizations*, Memorandum Opinion and Order, 22 FCC Rcd 22,151 (2007) (“*Intelsat-Serafina Order*”). In December 2009, the Commission also approved certain pro forma changes in Intelsat’s foreign ownership. There have been no other material changes to the foreign ownership since the date of the *Intelsat-Serafina Order*.

Exhibit B
FCC Form 312, Response to Question 36: Cancelled Authorizations

Intelsat North America LLC (“Intelsat”) has never had an FCC license “revoked.”

However, on June 26, 2000, the International Bureau “cancelled” two Ka-band satellite authorizations issued to PanAmSat Licensee Corp. (“PanAmSat”), a sister company of Intelsat North America LLC, based on the Bureau’s finding that PanAmSat had not satisfied applicable construction milestones. *See 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, Intelsat is herein making note of the decision in the interest 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 either PanAmSat’s or Intelsat’s basic qualifications, which are well-established and a matter of public record.

Exhibit C
FCC Form 312, Response to Question 40:
Officers, Directors, and Ten Percent or Greater Shareholders

Following are the officers of Intelsat North America LLC:

Michael McDonnell, Chairman
Andrew Stimson, Deputy Chairman
Phillip Spector, Secretary
Simon Van De Weg, Director, Finance

Following are the members of the Board of Managers of Intelsat North America LLC:

Michael McDonnell
Andrew Stimson
Phillip Spector

The address of all Intelsat North America LLC officers and members of the Board of Managers is:

4 rue Albert Borschette
L-1246 Luxembourg

Intelsat North America LLC is wholly owned by Intelsat LLC, a Delaware limited liability company. Intelsat LLC is wholly owned by Intelsat Holdings LLC, a Delaware limited liability company. Intelsat Holdings LLC is wholly owned by Intelsat Subsidiary Holding Company, S.A., a Luxembourg company. Intelsat Subsidiary Holding Company, S.A. is wholly owned by Intelsat Intermediate Holding Company, S.A., a Luxembourg company. Intelsat Intermediate Holding Company, S.A. is wholly owned by Intelsat Jackson Holdings, S.A., a Luxembourg company. Intelsat Jackson Holdings, S.A. is wholly owned by Intelsat (Luxembourg), S.A., a Luxembourg company. Intelsat (Luxembourg), S.A. is wholly owned by Intelsat, S.A., a Luxembourg company. Intelsat, S.A. is wholly owned by Intelsat Holdings, S.A., a Luxembourg company. Intelsat Holdings, S.A. is wholly owned by Intelsat Global Subsidiary, S.A., a Luxembourg company. Intelsat Global Subsidiary, S.A. is wholly owned by Intelsat Global, S.A., a Luxembourg company (“Intelsat Global”, formerly “Serafina Holdings Limited”). Each of these entities may be contacted at the following address: 4 rue Albert Borschette, L-1246 Luxembourg.

Intelsat Global’s ownership was approved by the Commission in the *Intelsat-Serafina Order*, has not changed materially and is incorporated by reference. See *Intelsat Holdings, Ltd. and Serafina Holdings Limited, Consolidated Application for Consent to Transfer of Control of Holders of Title II and Title III Authorizations*, Memorandum Opinion and Order, 22 FCC Rcd 22,151 (2007) (“*Intelsat-Serafina Order*”).