

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of

Intelsat License LLC

Application to Modify Authorization for
Intelsat 8 (S2460)

File No. SAT-MOD- _____

**APPLICATION OF INTELSAT LICENSE LLC
TO MODIFY AUTHORIZATION FOR INTELSAT 8**

Intelsat License LLC (“Intelsat”), pursuant to Section 25.117 of the rules of the Federal Communications Commission (“Commission” or “FCC”),¹ hereby seeks to modify the authorization for the Intelsat 8 (Call Sign S2460) satellite. Specifically, this modification seeks authority to relocate Intelsat 8 to, and to operate the satellite at, 169.10° E.L. At this location, Intelsat 8 will provide C- and Ku-band service using, among other frequencies, the 14250–14500 MHz and 12250–12750 MHz frequency bands previously licensed to Intelsat 2 (Call Sign S2459)² and recently made available for reassignment pursuant to the Commission’s first-come, first-served licensing process.³

In accordance with the requirements of the Commission’s rules,⁴ this application has

¹ 47 C.F.R. § 25.117.

² Intelsat 2 (Call Sign S2459) operated at 169.10° E.L. until June 2010. *See* File No. SAT-STA-20100330-00059 (stamp grant Jun. 25, 2010) (authorizing the drift of Intelsat 2 from 169.10° E.L. to 157° E.L.)

³ *See Policy Branch Information; Actions Taken*, Report No. SAT-00875, DA 12-948 (Jun. 15, 2012) (Public Notice).

⁴ 47 C.F.R. § 25.117(c).

been filed electronically as an attachment to FCC Form 312. Intelsat provides the technical information relating to the proposed modification on Schedule S and in narrative form in the attached Engineering Statement.⁵

I. PROPOSED MODIFICATION

By this modification, Intelsat requests authority to relocate Intelsat 8 to, and operate the satellite at, 169.10° E.L. Intelsat 8 is currently authorized to operate at 166.0° E.L.⁶ The recently-launched Intelsat 19 satellite (Call Sign S2850) is replacing Intelsat 8 at the 166.0° E.L. orbital location.⁷ Intelsat expects to begin drifting Intelsat 8 in late July 2012 and have the satellite on station at 169.10° E.L. by early August 2012. At 169.10° E.L., Intelsat 8 will replace the Intelsat 5 satellite (Call Sign S2704), which is currently operating at 169.0° E.L.⁸

During the drift of Intelsat 8 from 166.0° E.L. to 169.10° E.L., Intelsat will utilize only the satellite's TT&C frequencies. The specific TT&C frequencies are as follows:

Uplink:
13998 MHz (RHCP)

Downlink:
12747 (H)
12748 (V)
12747 (LHCP)
12748 (LHCP)

⁵ 47 C.F.R. § 25.114.

⁶ See *PanAmSat Licensee Corp. Application for Authority to Construct, Launch and Operate a Hybrid International Communications Satellite*, 14 FCC Rcd 2719 (1998); *Policy Branch Information: Actions Taken*, Report No. SAT-00358, DA 06-980, File No. SAT-MOD-20060228-00017 (May 5, 2006) (Public Notice).

⁷ See *Policy Branch Information; Actions Taken*, Report No. SAT-00871, DA 12-864, File No. SAT-RPL-20111222-00245 (Jun. 1, 2012) (Public Notice).

⁸ See *Policy Branch Information; Actions Taken*, Report No. SAT-00561, DA 08-2346, File No. SAT-MOD-20080725-00150 (Oct. 24, 2008) (Public Notice). Following traffic transfer to Intelsat 8, Intelsat 5 will be redeployed to a different orbital location.

Once located at 169.10° E.L., Intelsat will operate the Intelsat 8 satellite's communications frequencies, as follows:

Frequency Band	INTELSAT 8	INTELSAT 5	INTELSAT 2
5925 – 6425 MHz	√	√	√
12750 – 13250 MHz		√ (see Note)	
14000 – 14250 MHz	√	√	√
14250 – 14500 MHz	√		√
3700 – 4200 MHz	√	√	√
10700 – 10950 MHz		√ (See Note)	
11200 – 11450 MHz		√ (See Note)	
11450 – 11700 MHz		√	
12250 – 12750 MHz	√		√

Note: Band is an ITU Planned band for which Intelsat has no ITU filing at the nominal 169° E.L. orbital location. Intelsat 5 utilizes these bands on a non-interference (and non-protection) basis.

Intelsat 8 operates on all of the existing frequencies on Intelsat 5 (except for the 10700–10950 MHz, 11200–11450 MHz and 11450–11700 MHz and 12750–13250 MHz Ku-band frequencies). In addition, Intelsat 8 operates on the 14250–14500 MHz and 12250–12750 MHz frequency bands that previously were licensed to Intelsat 2 and recently made available for reassignment.

II. PUBLIC INTEREST SHOWING

Grant of this modification application will serve the public interest by enabling Intelsat to provide continuity of service to customers at 169.10° E.L. Intelsat has been providing service to customers from the nominal 169° E.L. orbital location for many years. The Intelsat 2 satellite operated at 169.10° E.L. until June 2010. Intelsat 5 replaced the Intelsat 2 satellite at 169.0° E.L. in June 2010.⁹ Grant of this application will enable Intelsat again to provide customers

⁹ See *Policy Branch Information; Actions Taken*, Report No. SAT-00561, File No. SAT-MOD-20080725-00150 (Oct. 24, 2008) (Public Notice).

continuity and growth in the Pacific Ocean Region with a full range of C- and Ku-band services from the nominal 169° E.L. location.

Grant of this modification application will not result in an increased risk of harmful interference. During the short drift from 166.0° E.L to 169.10° E.L., Intelsat will operate only the above listed TT&C frequencies and will coordinate its TT&C transmissions internally with the operations of Intelsat 5. There are no other operators of co-frequency satellites in the drift path. Once on-station at 169.10° E.L., Intelsat will operate the Intelsat 8 satellite's communications payload and TT&C frequencies in conformance with its coordination agreements regarding the nominal 169.0° E.L. orbital location and the FCC's rules governing operations vis-à-vis adjacent locations.

III. WAIVER

Intelsat requests that the waiver of Section 2.106 (the "U.S. Table of Frequency Allocations") previously granted to the Intelsat 8 spacecraft for the 166.0° E.L orbital location continue to apply at the nearby 169.10° E.L. orbital location.¹⁰ This waiver permits Intelsat 8 to transmit in the 12250–12750 MHz frequency band for commercial Fixed-Satellite Service ("FSS") on a non-interference, non-protected basis to the its Napa, California earth station facility. In addition, Intelsat requests the extension of the waiver to any earth station in International Telecommunication Union ("ITU") Region 2. In the U.S. Table of Frequency Allocations, the 12250–12700 MHz frequency band is allocated for use by the Fixed Service

¹⁰ See *In the Matter of PanAmSat License Corp. Application for Modification of Authority to Operate the Pas-5 Satellite at the 166° degrees E.L. Orbital Location*, Order and Authorization, DA 06-6, File Nos. SAT-MOD-19980928-00078, SAT-AMD-19990222-00024, SAT-AMD-20020326-00055, SAT-STA-20020705-00097, and SAT-AMD-20051116-00220, 21 FCC Rcd 36, ¶ 1 (Jan. 4, 2006).

(“FS”) and Broadcast Satellite Service (“BSS”), and the 12700–12750 MHz frequency band is allocated for use by the FS, Mobile Service (“MS”) and FSS (Earth-to-space).¹¹

The Commission may grant a waiver for good cause shown.¹² The Commission typically grants a waiver where the particular facts make strict compliance inconsistent with the public interest.¹³ In granting a waiver, the Commission may take into account considerations of hardship, equity, or more effective implementation of overall policy on an individual basis.¹⁴ Waiver therefore is appropriate where special circumstances warrant a deviation from the general rule, and such a deviation will serve the public interest.

In this case, good cause exists for the Commission to continue Intelsat 8’s existing waiver of the U.S. Table of Frequency Allocations because Intelsat’s use of the 12250–12750 MHz frequency band in ITU Region 2 from an orbital location a mere three degrees away from its existing location will not cause harmful interference to any terrestrial stations or satellites.¹⁵ Indeed, in over five years of service at 166.0° E.L., Intelsat is not aware of any complaints of harmful interference regarding Intelsat 8’s operations in the 12250–12750 MHz frequency band in ITU Region 2.

¹¹ 47 C.F.R. § 2.106.

¹² 47 C.F.R. § 1.3.

¹³ *N.E. Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990) (“*Northeast Cellular*”).

¹⁴ *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969); *Northeast Cellular*, 897 F.2d at 1166.

¹⁵ See *Intelsat North America LLC, Application for Authority to Modify Earth Station Authorization to Provide Launch and Early Orbit Phase (“LEOP”) Operations for Newly Launched Satellites*, Order and Authorization, 21 FCC Rcd 14672, 14674 (¶ 6) (Int’l Bur. 2006) (“If a proposal will not cause interference to other licensed operations, the Commission generally authorizes it if it is otherwise in the public interest.”).

A. Operation in the 12250–12700 MHz Band Will Not Cause Harmful Interference.

Terrestrial systems operating within the United States will not be subjected to harmful interference because Intelsat 8's transmissions in the 12250–12700 MHz frequency band in ITU Region 2 will remain compliant with the ITU space-to-Earth power flux density ("PFD") limits over the Earth. Specifically, to ensure protection of terrestrial communication links from space station transmissions, Article 21.16 of the ITU Radio Regulations imposes PFD limits on satellite transmissions in the space-to-Earth direction.¹⁶ As specified in the attached Engineering Statement, Intelsat 8 is compliant with the PFD limits specified in Art. 21.16 of the ITU Radio Regulations.¹⁷

Moreover, Intelsat 8's operations in the 12250–12700 MHz frequency band will not impact other space stations. According to the ITU Region 2 BSS Plan, where the use of the 12250 – 12700 MHz band is specified, no BSS assignment can be located further west than 175.2° W.L. As a result, there would be at least 15.7° of orbital separation between Intelsat 8 at 169.10° E.L. and the nearest BSS network that could provide service to any portion of ITU Region 2. With this large orbital separation, there would be no risk of harmful interference to BSS networks from the operation of Intelsat 8 in the 12250–12700 MHz frequency band.

¹⁶ ITU Radio Regulations, Art. 21.16 (2008). For ITU Region 2, PFD limits are specified only for non-geostationary satellites operating in the 11.7–12.7 GHz band. However, these limits also may be applied to geostationary satellites, since the PFD limit is intended to protect terrestrial stations from space station transmissions irrespective of whether the radiating space station is geostationary or non-geostationary. Moreover, when converted to the same reference bandwidth, the PFD limits are identical to those applicable to geostationary FSS space stations in ITU Region 3 which apply to the 12200–12750 MHz frequency band.

¹⁷ See Engineering Statement at 2. The PFD calculations contained in the Engineering Statement, Exhibit 3, assumed a referenced bandwidth of 4 kHz. These calculations may be converted to a reference bandwidth of 1 MHz by adding the value of $\{[10\text{Log}(1000000 \text{ Hz})] - [10\text{log}(4000 \text{ Hz})] =\}$ 24 dB to the ITU limit as well as to the calculated PFD level specified in that exhibit.

Further, there are no BSS satellites currently in operation at 175.2° W.L.; the nearest operational BSS satellite to Intelsat 8 that serves any portion of ITU Region 2 in the 12250–12700 MHz band is located at 129.0° W.L. Accordingly, no operational BSS satellite providing service to ITU Region 2 would be subjected to harmful interference from the Intelsat 8 transmissions.

B. Operation in the 12700–12750 MHz Band Will Not Cause Harmful Interference.

Intelsat will also protect terrestrial stations in the 12700–12750 MHz band by limiting the PFD level of the Intelsat 8 carriers that may be transmitted to Region 2 to the levels specified in the ITU No. 21.16 for Region 2 for the fixed satellite service in the 11700–12700 MHz band, as described above.¹⁸ The Commission granted a similar waiver for Intelsat 805 to operate in the 12700–12750 MHz frequency band conditioned on compliance with the ITU Article 21.16 PFD limits.¹⁹

Use of the 12700–12750 MHz frequency band for Intelsat 8 transmissions to earth stations in ITU Region 2 will not cause harmful interference to, nor claim protection from, any FSS (Earth-to-space) links operating in the 12700–12750 MHz frequency band in ITU Region 2. Intelsat will ensure that its receiving earth stations are sufficiently separated from any transmitting FSS earth station operating in the 12700–12750 MHz frequency band in ITU Region 2. If sufficient distance separation cannot be achieved, Intelsat will not claim protection from interference that may be due to the FSS earth station. The Intelsat 8 downlink transmissions in the 12700-127500 MHz band will not cause interference to receiving space

¹⁸ See *supra* notes 16 and 17 and accompanying text.

¹⁹ See *In the Matter of Intelsat LLC, Application to Modify Authorization for Intelsat 805 to Allow the Provision of Fixed-Satellite Service Between Non-U.S. Points in the 12.7-12.75 GHz Frequency Band*, File No. SAT-MOD-200209191-00178, Order and Authorization, 19 FCC Rcd 2775, ¶ 11 (Feb. 18, 2004).

stations. Intelsat is not aware of any geostationary space station in ITU Region 2 receiving in the 12700–12750 MHz frequency band.

IV. REQUEST FOR GRANT WITHOUT MILESTONES OR A BOND

The International Bureau should grant this application without imposing milestones²⁰ or a bond.²¹ Because Intelsat 8 already is in-orbit and operating, and this application only modifies a pre-existing license by changing orbital locations, all milestones for this satellite have been satisfied and Intelsat is not required to post a bond.²² Indeed, the Commission has granted similar applications for in-orbit satellites without imposing milestones or a bond.²³

Alternatively, out of an abundance of caution and to the extent necessary, Intelsat requests a waiver of Sections 25.164(a) and 25.165²⁴ of the rules for any possible milestone or bond associated with the operation of the 14250–14500 MHz and 12250–12750 MHz frequency bands which the FCC recently made available for reassignment.²⁵ Waiver is appropriate in this case because there is no concern about warehousing.²⁶ The Intelsat 8 satellite is already in-orbit

²⁰ 47 C.F.R. § 25.164(a).

²¹ 47 C.F.R. § 25.165.

²² See *Loral Skynet Network Services, Inc.*, 21 FCC Rcd 14,365 (Int’l Bur. 2006) (“Because Telstar 18 is in-orbit and operating, Loral is not required to post a bond.”).

²³ See *Application of PanAmSat Licensee Corp. to Modify Authorization for Galaxy 11*, File No. SAT-MOD-20080225-00051 (stamp grant July 22, 2008); *PanAmSat Licensee Corp., Application to Modify Authorization to Relocate Intelsat 5 to 169.0° E.L.*, File No. SAT-MOD-20080725-00150 (stamp grant Oct. 17, 2008).

²⁴ 47 C.F.R. §§ 25.164(a) and 25.165.

²⁵ See *Policy Branch Information; Actions Taken*, Report No. SAT-00875, DA 12-9948 (Jun. 15, 2012) (Public Notice).

²⁶ See *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, ¶ 170 (2003) (“[b]y making the bond payable upon failure to meet any milestone . . . we further strengthen our protections against speculation and warehousing.”).

and will be able to provide service in these additional frequencies from the 169.10° E.L. location in a much more timely manner than the five years that would be allowed to an applicant intending to construct, launch, and operate a new satellite at this location. Moreover, there is no realistic risk of another operator seeking a license for these limited frequencies at this location given that the C-band and the remainder of the Ku-band already are licensed to Intelsat at the nominal 169.0° E.L. orbital location.

V. ORBITAL DEBRIS STATEMENT

Intelsat has assessed and limited the probability of the Intelsat 8 space station becoming a source of debris as a result of collision with large debris or other operational space stations at 169.10° E.L. Intelsat 8 (at 169.10° E.L) and Intelsat 5 (at 169.0° E.L) will be operated in adjacent station-keeping boxes until Intelsat 5 is relocated. Intelsat 8 will not have an overlapping station-keeping volume with any other satellite. Further, Intelsat is not aware of any other FCC-licensed system, or any other system applied for and under consideration by the FCC, having an overlapping station-keeping volume with Intelsat 8 at 169.10° E.L. Finally, Intelsat is not aware of any system with an overlapping station-keeping volume with Intelsat 8 at 169.10° E.L. that is the subject of an ITU filing and that is either in orbit or progressing toward launch.

Intelsat expects to operate Intelsat 8 at 169.10° E.L. until its end-of-life, which currently is anticipated to be May 2019 (assuming station-kept operation). The Commission has previously concluded that Intelsat's post mission disposal plan, which would dispose of the Intelsat 8 satellite to minimum altitude of 150 km above GEO arc, "demonstrates its operation

raises no public interest concerns related to orbital debris.”²⁷ Intelsat has reserved 28.9 kilograms of fuel for this purpose.²⁸

VI. CONCLUSION

For the reasons set forth above, Intelsat respectfully requests that the Commission grant this modification application.

Respectfully submitted,

Intelsat License LLC

By: /s/ Susan H. Crandall

Susan H. Crandall
Assistant General Counsel
Intelsat Corporation

Jennifer D. Hindin
Colleen King
WILEY REIN LLP
1776 K Street, N.W.
Washington, D.C. 20006
(202) 719-7000

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²⁷ See *In the Matter of PanAmSat License Corp. Application for Modification of Authority to Operate the Pas-5 Satellite at the 166° degrees E.L. Orbital Location*, Order and Authorization, DA 06-6, File Nos. SAT-MOD-19980928-00078, SAT-AMD-19990222-00024, SAT-AMD-20020326-00055, SAT-STA-20020705-00097, and SAT-AMD-20051116-00220, 21 FCC Rcd 36, ¶ 16 (Jan. 4, 2006).

²⁸ See Engineering Statement at 8. Intelsat’s previously approved plan noted that Intelsat would reserve 4.3 kilograms of fuel. Intelsat will now reserve 28.9 kilograms of fuel based on more conservative bookkeeping calculations taking into account fuel gauging uncertainty.

Exhibit A

FCC Form 312, Response to Question 34: Foreign Ownership

The Commission previously approved foreign ownership in Intelsat License LLC (“Intelsat”), in the *Intelsat-Serafina Order*.¹ In December 2009 and October 2011, the Commission also approved *pro forma* changes in Intelsat’s foreign ownership.² There have been no other material changes to Intelsat’s foreign ownership since the date of the *Intelsat-Serafina Order*.

¹ *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).

² *See Intelsat North America LLC, Intelsat LLC, PanAmSat Licensee Corp., PanAmSat H-2 Licensee Corp., and Intelsat New Dawn Company, Ltd., Applications for Pro Forma Transfer of Control*, File Nos. SAT-T/C-20091125-00128, SAT-T/C-20091125-00124, SAT-T/C-20091125-00127, SAT-T/C-20091125-00125, SAT-T/C-20091125-00126, SES-T/C-20091125-01505, SES-T/C-20091125-01502, SES-T/C-20091125-01506, SES-T/C-20091125-01504 and SES-T/C-20091125-01503 (granted Dec. 3, 2009); *Intelsat Application for Pro Forma Transfer of Control*, File Nos. SAT-T/C-20110810-00160, SAT-T/C-20110811-00161, SES-T/C-20110811-00948, SES-T/C-20110812-00963 (granted Oct. 13, 2011), and 0004825139 (granted Oct. 19, 2011).

Exhibit B

FCC Form 312, Response to Question 36: Cancelled Authorizations

Intelsat License 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 a former Intelsat entity, PanAmSat Licensee Corp. (“PanAmSat”),³ based on the Bureau’s finding that PanAmSat had not satisfied applicable construction milestones.⁴ 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 Intelsat’s basic qualifications, which are well-established and a matter of public record.

³ All licenses previously held by PanAmSat Licensee Corp. have been assigned to Intelsat License LLC. *See* File Nos. SAT-ASG-20101203-00252 (granted Dec. 23, 2010), SES-ASG-20101203-0150 (granted Dec. 20, 2010), and SES-ASG-20101206-01502 (granted Dec. 20, 2010).

⁴ *See PanAmSat Licensee Corp.*, Memorandum Opinion and Order, 15 FCC Rcd 18720 (IB 2000).

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

The officers and directors/managers of Intelsat License LLC are as follows:

Officers:

Michael McDonnell, Chairman
Flavien Bachabi, Deputy Chairman
Phillip Spector, Secretary
Simon Van De Weg, Director, Finance

Board of Managers:

Michael McDonnell
Flavien Bachabi
Phillip Spector

The business address of all Intelsat License LLC officers and members of the Board of Managers is:

4 rue Albert Borschette
L-1246 Luxembourg

Intelsat License LLC is a Delaware limited liability company that is wholly owned by Intelsat License Holdings LLC, also a Delaware limited liability company. Intelsat License Holdings LLC 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 Investment Holdings S.à r.l., a Luxembourg company. Intelsat Investment Holdings S.à r.l. is wholly owned by Intelsat Global Holdings S.A., a Luxembourg company. Each of these entities may be contacted at the following address: 4 rue Albert Borschette, L-1246 Luxembourg.

Intelsat Global Holding S.A.'s ownership was approved by the Commission as part of the *Intelsat-Serafina Order* and the recent Intelsat Pro Forma 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*"); *Intelsat Application for Pro Forma Transfer of Control*, File Nos. SAT-T/C-20110810-00160, SAT-T/C-20110811-00161, SES-T/C-20110811-00948, SES-T/C-20110812-00963 (granted Oct. 13, 2011), and 0004825139 (granted Oct. 19, 2011). On May 16, 2012, the International Bureau granted an application to transfer control of Intelsat pursuant to a public offering of newly issued voting shares by Intelsat, subsequent voting share sales by current shareholders and possible private placements of newly issued voting shares. *In the Matter of Intelsat Global Holdings, S.A., Applications to Transfer Control of Intelsat Licenses and Authorizations from BC Partners Holdings Limited to Public Ownership*, Order, DA 12-768 (rel. May 16, 2012). This transaction has not yet been consummated.