

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of
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.
File Nos.: SES-MOD-20050615-00751
SES-AMD-20051116-01587
Call Sign: E040125

ORDER AND AUTHORIZATION

Adopted: December 21, 2006

Released: December 21, 2006

By the Chief, Satellite Division, International Bureau:

I. INTRODUCTION

1. By this Order, we grant Intelsat North America LLC (Intelsat) conditional authority to modify its earth station in Nuevo, California. This modification allows Intelsat to use this earth station to provide Launch and Early Orbit Phase (LEOP) service to newly launched C-band satellites using frequencies on the edge of the conventional C-band. Specifically, we grant Intelsat conditional authority to increase the emission power at the Nuevo earth station for its Earth-to-space transmissions to 89 dBW within the 6420.5-6425 MHz and 5925-5929.5 MHz frequency bands for the limited purpose of providing intermittent LEOP service to U.S. licensed C-band satellites or non-U.S. licensed C-band satellites on the Commission's Permitted Space Station List (Permitted List) immediately following the satellite's separation from a launch vehicle until it reaches its assigned orbit location. We also grant Intelsat's accompanying request for a waiver of section 25.212(d) of the Commission's rules to increase the emission power to this level. To ensure that LEOP operations do not cause harmful interference to other authorized communication services, we require Intelsat to coordinate its operations with potentially affected satellite operators. We note that Intelsat has already coordinated with terrestrial wireless operators. Due to the intermittent nature and unusually high power of the LEOP operations, we will also require Intelsat to notify potentially affected terrestrial users prior to beginning its LEOP operations. Further, we grant Intelsat's request to change the regulatory classification of its Nuevo earth station from common carrier/non-common carrier to non-common carrier only. Grant of this application represents another step of reducing the regulatory burdens on licensees, and will facilitate the launch of authorized C-band satellites.

1 The conventional C-band refers to frequencies in the 3700-4200 MHz (downlink) and 5925-6425 MHz (uplink) bands. Intelsat requests use of the 5925-5929.5 MHz and 6420.5-6425 MHz bands.

II. BACKGROUND

2. On June 15, 2005, Intelsat filed an application to modify its authorization for its 11-meter antenna earth station in Nuevo, California to provide LEOP services to support newly launched satellites.² Specifically, Intelsat states that it has an extensive network of tracking, telemetry, and control (TT&C) facilities around the world and uses this network to provide TT&C services during the LEOP missions of its own satellites and those of other satellite operators. Intelsat explains that the LEOP mission is a critical stage during which it tracks and monitors a satellite while the satellite is moving to its geostationary orbital location.³ During the LEOP mission, the satellite continually passes satellites in geostationary-satellite orbit (GSO) and crosses the geostationary orbit plane. Once the satellite reaches its target orbital location, on-orbit TT&C will commence for the life of the satellite, and the TT&C ground network used during the LEOP mission is released.⁴ The LEOP mission generally lasts 10 days.⁵

3. Intelsat states that to provide LEOP services it must use a full-motion tracking antenna with maximum range of azimuth and elevation movement, capable of tracking a satellite from horizon to horizon. Therefore, in its modification application, Intelsat seeks authority to transmit in directions not limited to the geostationary arc, including azimuths from 137.4° to 270°, and an angle of elevation from 5° to 90°.⁶ In addition, Intelsat states its needs a higher transmit power capability, and requests authority to increase the Nuevo earth station's effective isotropic radiated power (EIRP) to 89 dBW to support a LEOP mission.⁷ To this end, Intelsat requests a waiver of section 25.212(d) of the Commission's rules to allow it to operate at this power level.⁸ Intelsat notes that it has coordinated its C-band LEOP operations with co-frequency terrestrial operators and will coordinate its C-Band LEOP operations with satellite operators to ensure that LEOP operations do not cause harmful interference to co-primary terrestrial microwave stations or to in-orbit GSO satellites.⁹

4. Intelsat states that it performs LEOP services approximately four times per year. Providing these services, Intelsat asserts, requires it to file a request for special temporary authority (STA) every three months, with modifications in the event of launch delays. To eliminate the need for continuous STA's, Intelsat seeks to modify its license for the Nuevo earth station to allow it to provide intermittent LEOP services on a regularly-licensed basis.¹⁰ Intelsat notes that the Commission has previously granted

² Intelsat North America LLC, Application File No. SES-MOD-20050615-00751, filed June 15, 2005; Intelsat North America LLC, Application File No. SES-AMD-20051116-01587, filed November 16, 2005 (*Amended Application*).

³ *Amended Application*, Addendum to Exhibit F, at 2.

⁴ *Amended Application*, Addendum to Exhibit F, at 3.

⁵ *Amended Application*, Addendum to Exhibit F, at 2.

⁶ *Amended Application* at 17. Azimuth is measured by using true North as the reference point. Thus, an azimuth of north is 0°, east is 90°, south is 180° and west is 270°.

⁷ *Amended Application*, Addendum to Exhibit F, at 3. Intelsat states that satellites in LEOP are not always optimized for earth pointing, and in the case of a launch anomaly, it may be necessary to transmit at a very high power to ensure the command is received. Typically, an e.i.r.p capability of approximately 89 dBW is required.

⁸ 47 C.F.R. § 25.212(d).

⁹ *Amended Application*, Addendum to Exhibit F, at 3. During its 40 years of providing LEOP services, Intelsat states it has not received any reports of interference to other satellites or complaints from other operators. *Amended Application*, Addendum to Exhibit F, at 4.

¹⁰ *Amended Application*, Addendum to Exhibit F, at 4.

it authority to use certain facilities to provide LEOP services on a regularly-licensed basis.¹¹

5. In addition, Intelsat seeks to change the regulatory classification of its Nuevo earth station license from dual-use (both common carrier and non-common carrier) to non-common carrier only. Intelsat claims that it has not operated this earth station on a common carrier basis to date. Therefore, a change in its regulatory status will not result in the discontinuance of service to existing customers. Intelsat also states it does not anticipate any future business need to operate the earth station on a common carrier basis.¹²

III. DISCUSSION

A. LEOP Authority

6. The Commission has designed its satellite licensing policies to be flexible enough to allow satellite operators to respond to changing technological, market, and regulatory conditions.¹³ If a proposal will not cause interference to other licensed operations, the Commission generally authorizes it if it is otherwise in the public interest.¹⁴ We find that granting Intelsat's request for LEOP authority in the 5925-5929.5 MHz and 6420.5-6425 MHz bands, as conditioned below, will further the public interest.

7. Intelsat's proposed emission power level is equivalent to an input power density of +10.5 dBW/4kHz for the 6420.5-6425 MHz band and +8 dBW/4 kHz for the 5925.0-5929.5 MHz band, which exceeds the -2.7 dBW/ 4 kHz limit in section 25.212(d). Intelsat seeks a waiver of section 25.212(d) of the Commission's rules, which sets forth the constraints on power density delivered to the antenna to ensure compliance with the Commission's two-degree satellite spacing requirement for satellites in geostationary orbits.¹⁵ Intelsat argues that we should waive the rule here because the Nuevo earth station will not transmit to a satellite at a geostationary orbital location. Rather, the earth station will transmit to a satellite traveling on its LEOP path, which starts immediately following the satellite's separation from its launch vehicle and ends when the satellite reaches its geostationary orbital location.¹⁶ Therefore, Intelsat claims that granting its waiver request will not undermine the two-degree spacing requirement that is the purpose of the rule. Further, Intelsat states that a waiver will serve the public interest by expanding Intelsat's ability to support the launch of satellites that provide communication services to the public.¹⁷

8. The Commission may waive its rules when there is good cause to do so and when waiver

¹¹ *Amended Application*, Addendum to Exhibit F, at 4.

¹² *Amended Application*, Exhibit F.

¹³ *See* Assignment of Orbital Locations to Space Stations in the Domestic Fixed-Satellite Service, *Memorandum Opinion and Order*, 3 FCC Rcd 6972 (1988).

¹⁴ Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Non-Voice, Non-Geostationary Mobile-Satellite Service, *Report and Order*, CC Docket No. 92-76, 8 FCC Rcd 8450 (1993). *See also* 47 C.F.R. § 25.117(d)(2) (codifying legal standard for satellite license modifications); The Boeing Company, *Order and Authorization*, 18 FCC Rcd 12317, 12319 (Int'l Bur. 2003); Sirius Satellite Radio, Inc., *Order and Authorization*, 16 FCC Rcd 5419, 5420 (Int'l Bur. 2001).

¹⁵ 47 C.F.R. § 25.212(d).

¹⁶ *Amended Application*, Exhibit G, at 2.

¹⁷ *Amended Application*, Exhibit G, at 3.

would not be inconsistent with the purpose of the rule.¹⁸ Section 25.212(d) sets power levels at which earth stations operating within a uniform two-degree spacing environment will not cause harmful interference to adjacent GSO satellites. We agree with Intelsat that granting its waiver request with certain conditions would not undermine section 25.212(d)'s purpose. First, during the LEOP mission, the Nuevo earth station will not be communicating with satellites in geostationary orbit. Second, Intelsat states it will ensure that LEOP operations will not cause harmful interference by obtaining written agreements from affected satellite operators regarding acceptable transmission parameters and by conducting LEOP operations on a non-harmful interference basis with respect to all other GSO satellite operations.¹⁹ In this regard, we will require Intelsat to file with the Commission a list of all potentially affected operators, using the predicted path of the satellite to be launched, and a certification that it has reached agreement with each of the operators. In the event that additional information is required during the LEOP mission, Intelsat must supplement its coordination request within three days of completion of the LEOP mission. Intelsat states that, when it has performed LEOP operations under an STA in the past, it reached operating agreements with all GSO satellite operators whose satellites are expected to pass within one degree of the satellite to be launched.²⁰ In light of the unusually high input power density that Intelsat plans to use, however, we conclude that one degree is not sufficient. We note that satellite operators communicating with earth stations at non-routine power levels must coordinate with adjacent satellites as far as six degrees away.²¹ It is reasonable, therefore, to require Intelsat to obtain agreements from operators of all satellites that will pass within six degrees of the launched satellite during LEOP operations. In the event that Intelsat cannot reach agreement with the operator of any affected satellite, we will require Intelsat to operate on a non-interference basis with respect to that satellite.

9. We also observe that Intelsat coordinated its proposed LEOP service with co-primary terrestrial wireless operators before it filed its LEOP modification application. As with all coordination in shared bands, we expect that existing terrestrial wireless operators will not receive harmful interference from Intelsat's LEOP operations, and that future terrestrial wireless operators will be aware of Intelsat's LEOP operations before they decide whether to place their receivers in an area that might be affected by those LEOP operations. Nevertheless, because of the unusually high, non-routine power levels, we require Intelsat to notify, but not coordinate with -all co-primary terrestrial operators, including such operators licensed in the future, prior to each LEOP operation.²²

10. In addition to these conditions, we impose a number of conditions to provide further protection to lawful operations from harmful interference. Section 25.205 of the Commission's rules

¹⁸ 47 C.F.R. § 1.3.

¹⁹ *Amended Application*, Addendum to Exhibit F, at 4. Section 25.220(c)(1) of the Commission's rules sets forth a procedure for earth station applicants seeking authority to operate at power levels in excess of those specified elsewhere in Part 25. 47 C.F.R. § 25.220(c)(1). We find, however, that there is good cause for a waiver of this rule on our own motion because Intelsat will not communicate with satellites in the geostationary orbit, and will coordinate with other potentially affected satellite operators.

²⁰ *Amended Application*, Addendum to Exhibit F, at 4.

²¹ 47 C.F.R. § 25.220(d)(1)(ii).

²² Requiring Intelsat to coordinate its LEOP service with all potentially affected satellite operators prior to filing its application, as it has coordinated with all potentially affected fixed wireless operators, would be very difficult if not impossible. Intelsat cannot predict the times and places of all the launches for which Intelsat will provide its LEOP service, and so cannot determine all the satellites that might be potentially affected by the LEOP operations. Conversely, because the area of the earth's surface that might be affected by the LEOP operations does not change, Intelsat can and did coordinate with terrestrial wireless operators.

prohibits earth stations from transmitting with an angle of elevation between 0° and 5°, except under certain circumstances not relevant here.²³ The purpose of this rule is to protect co-frequency terrestrial operations from harmful interference from earth stations. While Intelsat states it will not transmit below 5° elevation angles,²⁴ we expressly condition the Nuevo authorization to prohibit the earth station from transmitting at elevation angles between 0° and 5°. Furthermore, although Intelsat states it has coordinated an azimuth range of 90°-270°, it requested an azimuth of 137.4° to 317.4° in its application.²⁵ We limit Intelsat's LEOP authorization to the overlapping 137.4° to 270° azimuth range specified in the application.

11. Furthermore, if Intelsat does not provide LEOP operations for a period of two years, this authorization will become null and void. We impose this condition because Intelsat's LEOP services could prohibit other co-primary terrestrial services from operating on a regular basis. Therefore, it is reasonable to remove LEOP authority from the Nuevo license if that earth station is no longer providing LEOP operations on a regular basis. Given Intelsat's representations concerning the number of times each year in which it will be providing LEOP operations, we further find that a two-year time frame for determining whether Intelsat is continuing to conduct LEOP operations at this earth station is also reasonable.

12. Further, we limit Intelsat's high-power LEOP operations to the 6420.5-6425 MHz and 5925.0-5929.5 MHz frequency segments. While portions of Intelsat's application suggest that it additionally seeks to operate at higher powers in the center frequencies of 6176.3 MHz, 6175 MHz, and 6173 MHz, it does not specifically request to provide LEOP service in these bands. Further, section 25.202(g) of the Commission's rules requires licensees to conduct TT&C operations at the edges of the allocated service band. In this case, the service band is 5925-6425 MHz.²⁶ Intelsat has not provided any justification of a waiver of this requirement to allow it to operate mid-band.²⁷ Therefore, we expressly limit Intelsat's LEOP operations to the 6420.5-6425 MHz and 5925.0-5929.5 MHz frequency bands.

13. This authorization, as conditioned, will allow Intelsat to provide critical operations in support of newly launched satellites without causing harmful interference to other authorized operations in the band. Allowing Intelsat to perform these services under a regular-term license will eliminate the need for it to file repeated requests for LEOP authority on a special temporary authority basis, facilitating its provision of these services. Accordingly, we find that Intelsat has provided adequate justification for a modification of its license and any associated waivers.

B. LEOP Point of Communications

14. Having determined that Intelsat may increase the power transmitted from its Nuevo earth station to support LEOP operations on an ongoing basis, we must next determine how to reflect this in the earth station license. Intelsat requests authority to provide LEOP services to ALSAT satellites, and lists "U.S. LEOP" as a point of communication. To appropriately reflect the authority granted in this Order, we designate a new point of communication – LEOP. Just as the ALSAT designation provides the flexibility to access a variety of satellites without the delays associated with obtaining regulatory

²³ See PacAmTel, LLC, Petition for Waiver of Section 25.205 of the Commission's Rules, *Memorandum Opinion and Order*, 17 FCC Rcd 11968 (Sat. Div., Int'l Bur., 2002).

²⁴ *Amended Application*, Addendum to Exhibit F, at 4.

²⁵ *Amended Application* at 17.

²⁶ 47 C.F.R. § 25.202(g).

²⁷ *Amended Application*, Addendum to Exhibit F.

approvals, the LEOP designation will provide Intelsat the authority to communicate with all U.S. licensed C-band satellites and non-U.S. licensed C-band satellites on the Permitted List to provide launch support services without the need for additional regulatory approvals.²⁸ We incorporate this designation in the Nuevo license. Thus, Intelsat may use the Nuevo earth station to provide LEOP service to all U.S. licensed C-band satellites and non-U.S. licensed C-band satellites on the Permitted List.

C. Regulatory Status

15. As noted above, the Commission has designed its satellite licensing policies with the flexibility to allow satellite operators to respond to changing technology, market, and regulatory conditions.²⁹ Thus, if a modification request does not cause interference to other authorized operations in that frequency band, the Bureau generally approves it if it is otherwise in the public interest.³⁰ Intelsat's request to change its Nuevo earth station from common carrier/non-common carrier to non-common carrier status meets this standard.³¹ No one has filed comments objecting to Intelsat's request to remove its common carrier classification. Indeed, Intelsat represents that it has never operated the Nuevo earth station on a common carrier basis. Thus, we find no reason for Intelsat to continue its dual-use regulatory status.

IV. CONCLUSION AND ORDERING CLAUSES

16. Based on the foregoing, we find that granting Intelsat's modification application, as amended, will allow for greater efficiencies in providing important Launch and Early Orbit Phase

²⁸ Under an ALSAT earth station license an earth station operator providing FSS, using an earth station operating at routine power levels in the conventional C-and Ku-bands, is permitted to access any U.S. licensed GSO space station and any space station on the Commission's Permitted List, without additional Commission action, provided that those communications are in accordance with the same technical parameters and conditions established in the earth station's license and also in accordance with any conditions imposed on operations of the space station.

²⁹ See Assignment of Orbital Locations to Space Stations in the Domestic Fixed-Satellite Service, *Memorandum Opinion and Order*, 3 FCC Rcd 6972 (1988).

³⁰ Application of EarthWatch Incorporated for Authority to Construct, Launch, and Operate a Remote Sensing-Satellite System, *Order and Authorization*, 10 FCC Rcd 10467, 10469 (Int'l Bur. 1995), *citing* Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Non-Voice, Non-Geostationary Mobile Satellite Service, *Report and Order*, 8 FCC Rcd 8450 (1993).

³¹ Moreover, there is no record evidence suggesting that the Commission should require Intelsat to offer its Nuevo earth station service on a common carrier basis. See *National Association of Regulatory Utility Commissioners v. FCC*, 525 F.2d 630, 642 (D.C. Cir. 1976), *cert denied*, 425 U.S. 992 (1976) (establishing two-part test to determine common carrier status based on whether an entity holds itself out to serve the public indifferently or whether there is a public policy reason to require the entity to hold out indifferently). The Commission historically has determined that there is no reason to compel common carrier status for Intelsat earth stations. See *Comsat Corporation, Petition Pursuant to Section 10(c) of the Communications Act of 1934, as amended, for Forbearance from Dominant Carrier Regulation and Reclassification as a Non-Dominant Carrier, Order and Notice of Proposed Rulemaking*, 13 FCC Rcd 14083, 14086 (1998) (Intelsat earth station services exhibit competitive characteristics); *Lockheed Martin Corporation et al., Assignors, and Intelsat, Ltd., et al., Assignees, Applications for Assignment of Earth Stations and Wireless Licenses and Section 214 Authorizations and Petition for Declaratory Ruling, Order and Authorization*, 17 FCC Rcd 27732, 22750 (IB & WTB 2002) (*Lockheed Martin-Intelsat Order*) (no reason to compel common carrier status for Intelsat LLC earth stations). Additionally, the Commission has determined that there is no need to add an additional layer of common carrier and dominant carrier regulation of the Intelsat entities providing Title III capacity, so long as the Commission continues to regulate Intelsat USA License Corp. as a dominant common carrier on "thin" routes. See *Intelsat LLC, Authority to Operate and Further Construct, Launch, and Operate C-Band and Ku-band Satellites, Order on Reconsideration*, 15 FCC Rcd 25234, 25255 (2000).

operations.

17. Accordingly, Intelsat North America LLC's applications, File Nos. SES-MOD-20050615-00751 and SES-AMD-20051116-01587 are GRANTED in part and DENIED in part, to the extent indicated above.

18. IT IS FURTHER ORDERED, pursuant to Section 1.3 of the Commission's rules, 47 C.F.R. § 1.3, that Intelsat North America LLC's request for a waiver of 47 C.F.R. § 25.212(d) is GRANTED, and Intelsat is authorized to increase its maximum power density to +10.5 dBW/4KHz for the 6420.5-6425 MHz bands and to +8 dBW/4 kHz for the 5925.0-5929.5 MHz frequency band during the limited times and under the conditions set forth in this Order.

19. IT IS FURTHER ORDERED, that Intelsat North America LLC's point of communication designation for purposes of communicating with U.S. licensed satellites and non-U.S. licensed satellites on the Permitted List to provide support for Launch and Early Orbit Phase operations is "LEOP."

20. IT IS FURTHER ORDERED, that Intelsat must operate its earth station, Call Sign E040125 in the 6420.5-6425 MHz and 5925.0-5929.5 MHz frequency segments for LEOP operations, on a non-harmful interference basis with respect to operating satellites. This authorization is subject to the technical specifications in Intelsat's application, the Commission's rules, unless waived herein, and the following conditions:

- a. Intelsat's earth station antenna shall not transmit at angles below 5 degrees as set forth in 47 C.F.R. § 25.205.
- b. Intelsat must limit its azimuth range during LEOP operations to 137.4° to 270°.
- c. Intelsat must seek agreements from the satellite operator of all other satellites that will pass within six degrees of the newly launched satellite.
- d. Intelsat must notify all potentially affected terrestrial operators prior to each LEOP mission.
- e. Intelsat must operate consistently with its coordination agreements with terrestrial wireless operators.
- f. Intelsat must file with the Commission a list of all potentially affected satellite operators, using the predicted path of the satellite to be launched, and a certification that it has sought and/or obtained agreement with each of the operators listed. In the event that additional agreements are required during the LEOP mission, Intelsat must supplement the list within three days of completion of the LEOP mission.
- g. If Intelsat does not provide any LEOP services within any two year time period, this authorization is null and void.

21. IT IS FURTHER ORDERED, that Intelsat North America LLC's regulatory classification for earth station in Nuevo, California is non-common carrier.

22. This Order is issued pursuant to the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective upon release.

23. Intelsat North America LLC may decline this authorization as conditioned within 30 days from the date of the release of this Order. Failure to respond within that time period will constitute formal acceptance of this authorization as conditioned.

FEDERAL COMMUNICATIONS COMMISSION

Robert G. Nelson
Chief, Satellite Division
International Bureau