

KL92 SES-STA-20140922-00746 IB2014001878
Intelsat License LLC

Approved by OMB
3060-0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
Request for Special Temporary Authority Using Castle Rock, Colorado Earth Station KL92

I. Applicant

Name:	Intelsat License LLC	Phone Number:	703-559-7848
DBA Name:		Fax Number:	703-559-8539
Street:	c/o Intelsat Corporation 7900 Tysons One Place	E-Mail:	susan.crandall@intelsat.com
City:	McLean	State:	VA
Country:	USA	Zipcode:	22102 -5972
Attention:	Susan H. Crandall		

SES-STA-20140922-00746

Call Sign KL92 Grant Date 10-17-14
(or other identifier)

Term Dates
From 10-25-14 To: 11-25-14

Approved: *[Signature]*

GRANTED
International Bureau

Applicant: Intelsat License LLC
Call Sign: KL92
File No.: SES-STA-20140922-00746
Special Temporary Authority (STA)

The stamp is a red rectangular box containing the FCC Commercial Radio Bureau logo at the top center. Below the logo, the word "GRANTED" is printed in large, bold, capital letters. Underneath "GRANTED", the words "International Bureau" are printed in a smaller font. To the right of the logo, there are several handwritten entries in red ink: "File # SES-STA-20140922-00746", "Call Sign KL92", "Grant Date 10-17-14", "Term Dates From 10-25-14 To 11-24-14", and "Approved" followed by two signatures.

Intelsat License LLC is granted STA to operate its earth station Call Sign KL92 in Castle Rock, Colorado for 30 days, to begin October 25, 2014 to provide telemetry, tracking and control (TT&C) functions during in-orbit testing (IOT) and drift of the U.S. licensed Intelsat 30 satellite. The TT&C operations during IOT will be under the following conditions:

1. Intelsat will perform the operations in the uplink frequencies (Earth-to-space): 13750.0-14000 MHz and 14000.00-14500.00 MHz (LHCP) and downlink frequencies (space-to-Earth): 10950-11200 MHz, 11450.00-11700 MHz, and 11700.00-12200 MHz (RHCP) within coordinated emission and power limits. The maximum EIRP shall not exceed 85 DBW per NTIA manual US 356.
2. Intelsat will coordinate the proposed IOT operations at IOT location 132.0° W.L. with operators of co-frequency satellites within six degrees. During the drift from 132.0° W.L. to the satellite's permanent orbital location 95.05° W.L., Intelsat will coordinate with operators of co-frequency satellites in the drift path.
3. The LEOP operations must be coordinated with all operators of satellites that use the same frequency bands and are in the LEOP path. All operators of satellites in that path will be provided with an emergency phone number where the licensee can be reached in the event that harmful interference occurs. Currently the 24x7 contact information for Intelsat 30 LEOP mission is as follows: Ph.: (703) 559-7701 -East Coast Operations Center (primary); (310) 525-5591- West Coast Operations Center (back-up). Request to speak with Harry Burnham or Kevin Bell.
4. Operations, shall not cause harmful interference to, and shall not claim protection from, interference caused to it by any other lawfully operating station and it shall cease transmissions(s) immediately upon notice of such interference.
5. In the event of any harmful interference under this grant of STA, Intelsat License LLC KL92 must cease operations immediately upon notification of such interference, and must inform the Commission, in writing, immediately of such an event.
6. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future Intelsat License LLC applications.
7. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Intelsat License LLC's risk.

This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. §0.261, and is effective immediately.

2. Contact			
Name:	Susan H. Crandall	Phone Number:	703-559-7848
Company:	Intelsat Corporation	Fax Number:	703-559-3957
Street:	7900 Tysons One Place	E-Mail:	susan.crandall@intelsat.com
City:	McLean	State:	VA
Country:	USA	Zipcode:	22102 -5972
Attention:	Susan H. Crandall	Relationship:	Legal Counsel
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)			
3. Reference File Number or Submission ID			
4a. Is a fee submitted with this application?			
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).			
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee			
<input type="radio"/> Other (please explain):			
4b. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station			
5. Type Request			
<input type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other			
6. Requested Use Prior Date			
7. City Castle Rock			
8. Latitude (dd mm ss.s h) 39 16 38.0 N			

9. State	CO	10. Longitude (dd mm ss.s h)	104 48 25.0	W
11. Please supply any need attachments.				
Attachment 1: STA Request	Attachment 2: Exhibit A	Attachment 3:		
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)				
<div style="border: 1px solid black; padding: 5px;"> <p>Intelsat License LLC herein requests a grant of Special Temporary Authority for 30 days, from October 25, 2014 through November 24, 2014, to utilize its Castle Rock, Colorado Ku-band antenna, KL92, to conduct in-orbit testing of the Ku-band payload of the Intelsat 30 satellite (Call Sign S2887) at 132.0 W.L. Intelsat 30 is expected to be launched on</p> </div>				
13. 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.				
<input checked="" type="radio"/> Yes <input type="radio"/> No				
14. Name of Person Signing	Cynthia J. Grady			
15. Title of Person Signing	Regulatory Counsel, Intelsat Corporation			
<p style="text-align: center;">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).</p>				

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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.

12. Description

Intelsat License LLC herein requests a grant of Special Temporary Authority for 30 days, from October 25, 2014 through November 24, 2014, to utilize its Castle Rock, Colorado Ku-band antenna, KL92, to conduct in-orbit testing of the Ku-band payload of the Intelsat 30 satellite (Call Sign S2887) at 132.0 W.L. Intelsat 30 is expected to be launched on October 16, 2014.

Exhibit A
Intelsat License LLC
Castle Rock, Colorado
NEC 12.5 Meter Earth Station
Call Sign: KL92

Compliance with FCC Report & Order (FCC 96-377) for the 13.75 - 14.0 GHz Band
Analysis and Calculations

1. Background

This Exhibit is presented to demonstrate the extent to which the Intelsat License LLC (“Intelsat”) satellite earth station in Castle Rock, Colorado is in compliance with Federal Communications Commission (“FCC”) Report and Order 96-377. The potential interference from the earth station to U.S. Navy shipboard radiolocation operations (“RADAR”) and the National Aeronautics and Space Administration (“NASA”) space research activities in the 13.75 - 14.0 GHz band is addressed in this exhibit. The parameters for the earth station are:

Table 1. Earth Station Characteristics

- Coordinates (NAD83): 39° 16' 38.0" N, 104° 48' 25.0" W
- Satellite Location for Earth Station: IS-30 at 132.0° W
- Frequency Band: 13.75-14.5 GHz for uplink
- Polarizations: Linear
- Emissions: 850KF2D
- Modulation: FM/PSK
- Maximum Aggregate Uplink EIRP: 85.0 dBW for all Carriers
- Transmit Antenna Characteristics
 - Antenna Size: 12.5 meter in Diameter
 - Antenna Type/Model: NEC
 - Gain: 64.0 dBi
- RF power into Antenna Flange: 21.0 dBW or -2.3 dBW/4 kHz (Maximum)
- Minimum Elevation Angle:
Castle Rock, CO 47.6° @ 154.4° Az. at 132.0 W
- Side Lobe Antenna Gain: 29 - 25*log(θ)

Because the above uplink spectrum is shared with the Federal Government, coordination in this band requires resolution data pertaining to potential interference between the earth stations and both U.S. Navy Department and NASA systems. Potential interference from the earth station could impact the U.S. Navy and/or NASA systems in two areas. These areas are noted in FCC Report and Order 96-377, and consist of (1) Radiolocation and radio navigation, (2) Data Relay Satellites.

Summary of Coordination Issues:

- 1) Potential Impact to Government Radiolocation (Shipboard Radar)
- 2) Potential Impact to NASA Tracking and Data Relay Satellite Systems (“TDRSS”)

2. Potential Impact to Government Radiolocation (Shipboard Radar)

RADAR may occur anywhere in the 13.4 - 14 GHz frequency band aboard ocean going U.S. Navy ships. FCC Report & Order 96-377 allocates the top 250 MHz of this 600 MHz band to the Fixed Satellite Service (“FSS”) on a co-primary basis with the radiolocation operations and provides for an interference protection level of $-167 \text{ dBW/m}^2/4 \text{ kHz}$.

The closest distance to the shoreline from the Castle Rock earth station is approximately 1350 km southwest toward the Pacific Ocean.

Therefore, there should be no interference to the U.S. Navy RADAR from the Castle Rock, Colorado due to distance and terrain blockage between the site and the shore.

3. Potential Impact to NASA’s Tracking and Data Relay Satellite System

The geographic location of the Intelsat earth station in Castle Rock, Colorado is outside the 390 km radius coordination contour surrounding NASA’s White Sands, New Mexico ground station complex. Therefore, the TDRSS space-to-earth link will not be impacted by the Intelsat earth station in Castle Rock, Colorado.

The TDRSS space-to-space link in the 13.772 to 13.778 GHz band is assumed to be protected if an earth station produces an EIRP less than 71 dBW/6 MHz in this band. The 12.5 meter earth station antenna will have an EIRP greater than 71 dBW/6 MHz in this band. The total EIRP for all carriers is 85.0 dBW, and the equivalent EIRP per 6 MHz segment remains at 85.0 dBW/6 MHz. Therefore, there will be potential interference to the TDRSS space-to-space link (Table 1).

4. Coordination Result Summary and Conclusions

The results of the analysis and calculations performed in this exhibit indicate that compatible operation between the earth station at the Castle Rock, Colorado facility and the U.S. Navy and NASA TDRSS space-to-earth link are possible. These analyses have been based on the

September 22, 2014

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Request for Special Temporary Authority to Utilize Castle Rock, Colorado Ku-band Antenna KL92 to In-orbit Test the Intelsat 30 Satellite

Dear Ms. Dortch:

Intelsat License LLC (“Intelsat”) herein requests a grant of Special Temporary Authority (“STA”)¹ for 30 days, from October 25, 2014 through November 24, 2014, to utilize its Castle Rock, Colorado Ku-band antenna, KL92, to conduct in-orbit testing (“IOT”) of the Ku-band payload of the Intelsat 30 satellite (Call Sign S2887)² at 132.0° W.L. in the following frequencies:

10950-11200 MHz, 11450-11700 MHz, and 11700-12200 MHz (downlink)
13750-14000 MHz and 14000-14500 MHz (uplink)

Intelsat 30 is currently scheduled to be launched on October 16, 2014.

In support of its request, Intelsat attaches Exhibit A, which contains technical information that demonstrates that the operation of the earth station will be compatible with its electromagnetic environment and will not cause harmful interference into any lawfully operating terrestrial facility. In the extremely unlikely event that harmful interference should occur due to transmissions to or from its earth station, Intelsat will take all reasonable steps to eliminate the interference.

Intelsat notes that the maximum power level to be used in the Intelsat 30 IOT will be 21 dBW. There are no co-frequency satellites within six degrees of 132.0° W.L.

In addition, in order to conduct IOT in the 10950-11200 MHz and 11450-11700 MHz bands, this application for STA requests a waiver of the footnote NG52 to the U.S. Table of Frequency Allocations, which limits the use of the 10700-11700 MHz frequency band to “international systems.”³ Intelsat seeks

¹ Intelsat has filed this STA request, an FCC Form 159, and \$195.00 filing fee electronically via the International Bureau's Filing System.

² See *Policy Branch Information; Actions Taken*, Report No. SAT-01036, File Nos. SAT-LOA-20121025-00187 and SAT-AMD-20121221-00220 (Aug. 15, 2014) (Public Notice).

³ See 47 C.F.R. § 2.106 fn. NG52.

waiver to permit the Castle Rock, Colorado earth station KL92 to communicate with the Intelsat 30 satellite at 132.0° W.L. for the limited purpose of IOT.

The Commission may grant a waiver for good cause shown.⁴ The Commission typically grants a waiver where the particular facts make strict compliance inconsistent with the public interest.⁵ 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.⁶ Waiver is therefore appropriate if special circumstances warrant a deviation from the general rule, and such a deviation will serve the public interest. As shown below, good cause exists here to grant a waiver allowing the KL92 to provide IOT services to the Intelsat 30 satellite using the 10950-11200 MHz and 11450-11700 MHz band frequencies. Additionally, IOT will be conducted only for a short duration.

Good cause exists to waive the international only requirements for the use of the 10950-11200 MHz and 11450-11700 MHz frequency bands. The purpose of NG52 is to limit the number of the FSS service earth stations with which the co-primary fixed service would need to coordinate.⁷ Intelsat will provide services in the 10950-11200 MHz and 11450-11700 MHz frequency bands only on a non-interference/non-protected basis, and therefore will not need to coordinate with fixed service stations.

Moreover, grant of this waiver is consistent with the Commission's precedent. A waiver of the Table of Allocations is generally granted "when there is little potential interference into any service authorized under the Table of Frequency allocations and when the nonconforming operator accepts any interference from authorized services."⁸ The International Bureau has found that waiving the international only requirement would not undermine the purpose of the rules if the party seeking a waiver will be utilizing earth stations that are receive-only in these bands and thus "not capable of causing interference into FS stations" operating in the bands.⁹ KL92 will not transmit in the 10950-11200 MHz and 11450-11700 MHz frequency bands and Intelsat agrees to accept any level of interference into those earth stations from fixed service stations in the band. Accordingly, the earth stations operating in these bands pose no interference concerns with respect to co-frequency fixed service stations.

The IOT of Intelsat 30's Ku-band payload at 132.0° W.L. is a critical step in ensuring that the payload will be fully operational and thereby promotes the public interest.

⁴ 47 C.F.R. §1.3.

⁵ *N.E. Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990) ("Northeast Cellular").

⁶ *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969); *Northeast Cellular*, 897 F.2d at 1166.

⁷ See *Satellite Services*, 26 RR 2d 1257, 1263-65 (1973). See also *EchoStar KuX Corporation Application for Authority to Construct, Launch and Operate a Geostationary Satellite Using the Extended Ku-band Frequencies in the Fixed-Satellite Service at the 83° W.L. Orbital Location*, Order and Authorization, DA 04-3162, 9 (Int'l Bur., Sept. 30, 2004) ("EchoStar 83° Waiver").

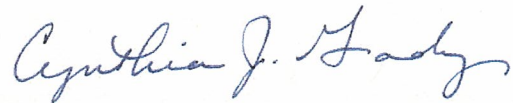
⁸ See *The Boeing Company*, Order and Authorization, 16 FCC Rcd 22645, 22651 (Int'l Bur. & OET 2001); *Application of Fugro-Chance, Inc. for Blanket Authority to Construct and Operate a Private Network of Receive-Only Mobile Earth Stations*, Order and Authorization, 10 FCC Rcd 2860 (Int'l Bur. 1995) (authorizing MSS in the C-band); see also *Application of Motorola Satellite Communications, Inc. for Modification of License*, Order and Authorization, 11 FCC Rcd 13952-13956 (Int'l Bur. 1996) (authorizing service to fixed terminals in bands allocated the mobile satellite service).

⁹ EchoStar 83° Waiver, ¶ 13.

Ms. Marlene H. Dortch
September 22, 2014
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For the reasons set forth herein, Intelsat respectfully requests that the Commission grant this request.

Sincerely,

A handwritten signature in blue ink that reads "Cynthia J. Grady". The signature is written in a cursive style with a large initial "C".

Cynthia J. Grady
Regulatory Counsel
Intelsat Corporation

cc: Paul Blais