

KL92 SES-STA-20120720-00680
Intelsat License LLC

IB2012001723

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:
STA for Earth Station KL92 to Provide LEOP Services for the Intelsat 21 Satellite


I. Applicant

Name: Intelsat License LLC Phone Number: 202-944-7848
DBA Name: DBA Name: 202-944-7870
Street: c/o Intelsat Corporation E-Mail: susan.crandall@intelsat.com
3400 International Drive, N.W.
City: Washington State: DC
Country: USA Zipcode: 20008 -3006
Attention: Susan H. Crandall

SES-STA-20120720-00680

Call Sign **KL92** Grant Date **8-17-12**
(or other identifier) Term Date **9-16-12**

From **8-17-12** Approved **Susan H. Crandall**

 **GRANTED**
International Bureau


Applicant: Intelsat License LLC
Call Sign: KL92
File No.: SES-STA-20120720-00680
Special Temporary Authority (STA)

Intelsat License LLC is granted STA to operate its earth station Call Sign KL92 in Castle Rock, Colorado for 30-day period from August 17, 2012 through September 16, 2012 under the following conditions:

1. Provide launch and early orbit phase ("LEOP") services for the Intelsat 21 satellite.
2. The Intelsat 21 TT&C operations will be performed on uplink frequencies 13994.5 MHz (H) and 13750.5 MHz (LHCP) and on downlink frequencies 11451.25 MHz, 11451.75 MHz, 11453.25 MHz, and 11453.75 MHz (LHCP/V). The maximum uplink EIRP transmitted during the LEOP operations will be 85 dBW, with an emission designator of 800KF2D.
3. Intelsat will coordinate the proposed TT&C operations at the In-Orbit Test location 51.3° W.L. with operators of co-frequency satellites within six degrees. During the drift from 51.3° W.L. to the satellite's permanent orbital location 58.0° W.L., Intelsat will coordinate with operators of co-frequency satellites in the drift path.
4. Operations in the uplink frequencies 13750.5 MHz and 13994.5 MHz and downlink frequencies 11451.25 MHz, 11451.75 MHz, 11453.25 MHz, and 11453.75 MHz will be within the coordinated parameters of the antenna's current license.
5. 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 transmission(s) immediately upon notice of such interference.
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.

SES-STA-20120720-00680

	Call Sign <u>KL92</u> Grant Date <u>8-17-12</u>
	(or other identifier)
	Term Dates From <u>8-17-12</u> To <u>9-16-12</u>
GRANTED	Approved <u>Paul E. [Signature]</u>

2. Contact			
Name:	Susan H. Crandall	Phone Number:	202-944-7848
Company:	Intelsat Corporation	Fax Number:	202-944-7870
Street:	3400 International Drive, N.W.	E-Mail:	susan.crandall@intelsat.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20008 -3006
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 checked="" type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other			
6. Requested Use Prior Date			
7. CityCastle 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, commencing August 12, 2012, to use its Castle Rock, Colorado Ku-band earth station, call sign KL92, to provide launch and early orbit phase services for the Intelsat 21 satellite that is expected to be launched on August 16, 2012</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"; party to the application; for these purposes. <p style="text-align: center;">Yes <input checked="" type="radio"/> No <input type="radio"/></p>	
14. Name of Person Signing Susan H. Crandall	15. Title of Person Signing Asst. General Counsel, Intelsat Corporation
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).	

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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.

Exhibit A

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

Compliance with FCC Report & Order (96-377) in respect to the 13.75 - 14.0 GHz Band

1. Background

This exhibit is presented to demonstrate the extent to which the Intelsat License LLC satellite earth station in Castle Rock, Colorado is in compliance with FCC Report & Order 96-377. The potential interference from the earth station to U.S. Navy shipboard radiolocation operations (RADAR) and the NASA space research activities in the 13.75 - 14.0 GHz band is addressed in this exhibit. The parameters for the earth station are provided in Table 1 below.

Table 1. Earth Station Characteristics

- Coordinates (NAD83): 39° 16' 38.0" N, 104° 48' 26.9" W
- Satellite Location for Earth Station: Horizon to Horizon
- Frequency Band: 13.75-14.5 GHz for uplink
- Polarizations: Linear
- Emissions: 850KF2D
- Modulation: TT&C (Digital)
- Maximum Aggregate Uplink EIRP: 92.0 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: 28.0 dBW or 28 dBW/ MHz
or 4.7 dBW/4 kHz (Maximum)
- Minimum Elevation Angle:
Castle Rock, Co. 10°
- Side Lobe Antenna Gain: $32 - 25 * \log(\theta)$

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 Navy Department and NASA systems. Potential interference from the earth station could impact the Navy and/or NASA systems in two areas. These areas are noted in FCC Report and Order 96-377 dated September 1996, and consist of (1) Radiolocation and radionavigation, (2) Data Relay Satellites.

Summary of Coordination Issues:

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

2. Potential Impact to Government Radiolocation (Shipboard Radar)

Radiolocation operations (RADAR) may occur anywhere in the 13.4 - 14 GHz frequency band aboard ocean going United States Navy ships. The FCC 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 facility due to distance and terrain blockage between Castle Rock and the shore.

3. Potential Impact to NASA's Data Relay Satellite System (TDRSS)

The geographic location of the Intelsat License LLC 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 License LLC 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 dish will have an EIRP greater than 71 dBW/6 MHz in this band. The total EIRP for all carriers is 92.00 dBW, and the equivalent EIRP per 6 MHz segment remains at 92.0 dBW/6 MHz. Therefore, there could be interference to the TDRSS space-to-space link.

However, the Castle Rock, Colorado earth station will not operate at the frequencies in the 13.772 to 13.778 GHz Band. So there will be no interference.

4. Coordination Issue 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 facility and the U.S. Navy and NASA systems space-to-earth link are possible. These analyses have been based on the assumption of 850 kHz bandwidth carriers. Operations in NASA systems space-to-space link (13772.0 to 13778.0 MHz) will not occur.

No interference to U.S. Navy RADAR operations from the Castle Rock, Colorado site earth station will occur.

July 20, 2012

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



Re: Request for Special Temporary Authority
Castle Rock, Colorado Earth Station KL92

Dear Ms. Dortch:

Intelsat License LLC ("Intelsat") herein requests a grant of Special Temporary Authority ("STA")¹ for 30 days commencing August 12, 2012, to use its Castle Rock, Colorado Ku-band earth station -- call sign KL92 -- to provide launch and early orbit phase ("LEOP") services for the Intelsat 21 satellite that currently is expected to be launched on or about August 16, 2012.² The LEOP period is expected to last approximately 15 days.³

The Intelsat 21 LEOP operations will be performed in the following frequency bands: 13994.5 MHz (H) and 13750.5 MHz (LHCP) in the uplink, and 11451.25 MHz, 11451.75 MHz, 11453.25 MHz, and 11453.75 MHz in the downlink (LHCP/V). The maximum uplink EIRP transmitted during the LEOP operations will be 85 dBW, with an emission designator of 800KF2D. The LEOP operations will be coordinated with all operators of satellites that use the same frequency bands and are in the LEOP path. As such, there would be no risk of interference with respect to lawfully operating, co-frequency radiocommunication facilities. Nevertheless, 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.

¹ Intelsat has filed its STA request, an FCC Form 159, a \$180.00 filing fee and this supporting letter electronically via the International Bureau's Filing System ("IBFS").

² The permanent orbital location of the Intelsat 21 satellite will be 58.0° W.L. See *Policy Branch Information; Actions Taken*, Report No. SAT-00882, File No. SAT-RPL-20120326-00061 (July 13, 2012) (Public Notice). The in-orbit testing location will be 51.3° W.L. See *Intelsat License LLC Request for Special Temporary Authority*, File No. SAT-STA-20120711-00114 (filed July 11, 2012).

³ Intelsat is seeking authority starting August 12, 2012 for 30 days in order to accommodate a possible shift in the launch schedule.

Ms. Marlene H. Dortch
July 20, 2012
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The 24x7 contact information for the Intelsat 21 LEOP mission is as follows:

Ph.: (202) 944-7701 – East Coast Operations Center (primary)
(310) 525-5900 – West Coast Operations Center (back-up)

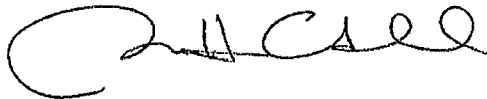
Request to speak with Harry Burnham or Kevin Bell.

In addition, Intelsat attaches Exhibit A, which addresses use of the 13994.5 MHz and 13750.5 MHz frequency bands. The above information indicates 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 or government 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.

Grant of this STA request will allow Intelsat to help launch the Intelsat 21 satellite to the 58.0° W.L. location. This, in turn, will help ensure continuity of service at that location and thereby promotes the public interest.

Please direct any questions regarding this STA request to the undersigned at (202) 944-7848.

Respectfully submitted,



Susan H. Crandall
Assistant General Counsel
Intelsat Corporation

cc: Paul Blais