

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 20 Satellite

I. Applicant

Name: Intelsat License LLC **Phone Number:** 202-944-7848
DBA Name: **Fax Number:** 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-20120620-00609
Call Sign: KL92 Grant Date: 7-27-12
(or other identifier) Term Date: 8-25-12
From: 7-27-12 To: [blank]
Approved: Paul E. Hahn
International Bureau

Applicant: Intelsat License LLC
Call Sign: KL92
File No.: SES-STA-20120620-00609
Special Temporary Authority (STA)

Intelsat License LLC is granted STA to operate its earth station Call Sign KL92 in Castle Rock, Colorado, from July 27, 2012 through August 25, 2012, to provide launch and early orbit phase ("LEOP") services for the Intelsat 20 satellite at 68.5° E.L. orbital location on frequencies 14498.0 MHz and 13750.5 MHz in the uplink (LHCP), and 12746.5 MHz, 12747.0 MHz, 12748.0 MHz, and 12748.5 MHz in the downlink (LHCP). The In-Orbit testing location will be at 63.1° E.L. The maximum uplink EIRP transmitted during the LEOP operations will be 85 dBW, with an emission designator of 800KF2D under the following conditions:

- 1) KL92, 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.
- 2) Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future Intelsat License LLC applications.
- 3) Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Intelsat License LLC's risk.
- 4) 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-20120620-00609

	Call Sign <u>KL92</u>	Grant Date <u>7-27-12</u>
	(or other identifier)	
	From <u>7-27-12</u>	To <u>8-25-12</u>
GRANTED	Approved <u>Paul E. Hines</u>	
International Bureau		

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 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
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.)		Attachment 3:	
<p style="border: 1px solid black; padding: 5px;"> Intelsat License LLC herein requests a grant of Special Temporary Authority for 30 days, from July 27, 2012 through August 25, 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 20 satellite that is expected to be launched on July 27, 2012 </p>			
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.			
14. Name of Person Signing		15. Title of Person Signing	
Susan H. Crandall		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).			

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

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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.

June 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, from July 27, 2012 through August 25, 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 20 satellite that is expected to be launched on July 27, 2012.² The LEOP period is expected to last approximately six days.³

The Intelsat 20 LEOP operations will be performed in the following frequency bands: 14498.0 MHz and 13750.5 MHz in the uplink (LHCP), and 12746.5 MHz, 12747.0 MHz, 12748.0 MHz, and 12748.5 MHz in the downlink (LHCP). 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.

The 24x7 contact information for the Intelsat 20 LEOP mission is as follows:

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 20 satellite will be 68.5° E.L. See *Policy Branch Information; Satellite Space Applications Accepted for Filing*, Report No. SAT-00830, File No. SAT-LOA-20111024-00208 (Dec. 23, 2012) (Public Notice). The in-orbit testing location will be 63.1° E.L.

³ Intelsat is seeking authority through August 25, 2012 to accommodate a possible launch delay.

Ms. Marlene H. Dortch
June 20, 2012
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Ph.: (202) 944-7701 – East Coast Operations Center (primary)
(310) 525-5900 – West Coast Operations Center (back-up)

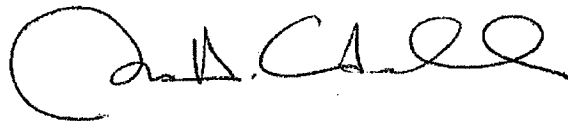
Request to speak with Bob Main.

In addition, Intelsat attaches Exhibit A, which addresses use of the 13750.5 MHz frequency band. 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 20 satellite to the 68.5° E.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,

A handwritten signature in black ink, appearing to read "Susan H. Crandall". The signature is fluid and cursive, with a large initial "S" and "C".

Susan H. Crandall
Assistant General Counsel
Intelsat Corporation

Cc: Paul Blais

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 satellite earth station located 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:

Table 1. Earth Station Characteristics

- Coordinates (NAD 83): 39° 16' 38.0" N, 104° 48' 26.9" W
- Satellite Location for Earth Station: Intelsat IS-1R at 50.0° W
- Frequency Band: 13.75-14.0 GHz for uplink
- Polarizations: Linear and Circular
- Emissions: 750KF2D
- Modulation: FM
- 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 / 750 kHz
or -1.7 dBW/4 kHz (Maximum)
- Minimum Elevation Angle:
Castle Rock, Co. 18.2° @ 114.1° Az (Intelsat IS-1R)
- Side Lobe Antenna Gain: 32 - 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 Navy Department and NASA systems. Potential interference from the earth station could occur in two areas. These areas are noted in FCC Report & Order 96-377 dated September 1996, 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 Data Relay Satellite Systems (TDRSS)

2. Potential Impact to Government Radiolocation (Shipboard Radar)

Radiolocation operations (RADAR) may occur anywhere in the 13.4 – 14.0 GHz frequency band aboard ocean going U.S. Navy ships. The FCC's 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 earth station due to distance and terrain blockage between the site 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 85.0 dBW, and the equivalent EIRP per 6 MHz segment will remain at 85.0 dBW/6 MHz. Therefore, there will be interference to the TDRSS space-to-space link (Table 1).

In order to meet the 71 dBW/6 MHz interference criteria, the earth station would have to be limited to an RF power density 14.0 dB lower than the maximum of -1.7 dBW/4 kHz or -15.7 dBW/4kHz or and EIRP of 71.0 dBW. If this operational condition cannot be met, then the Castle Rock, Colorado earth station may not be tuned to operate at the frequencies in the 13.772 to 13.778 GHz Band.

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 750 kHz bandwidth carriers. The earth station will not operate in NASA systems space-to-space link (13772.0 to 13778.0 MHz) frequency range.

Table 1

Excluded Frequency Range for PanAmSat Licensee Corporation Earth Station

System	Frequency Restriction
TDRSS	13.772-13.778 GHz (see Note 1)

Note 1: In order to meet the 71 dBW/6 MHz interference criteria, the earth station would have to be limited to a maximum total EIRP of 71.0 dBW.

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