

KL92 SES-STA-20180207-00099 IE2018000339  
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 180-Day STA Using Castle Rock, Colorado Earth Station KL92 to Provide LEOP Services for SES-12

1. Applicant

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



File # SES-STA-20180207-00099  
Call Sign KL92 Grant Date 4-13-18  
(or other identifier)  
Term Dates From: 4-13-18 To: 10-15-18  
Approved: *[Signature]*

Application: Intelsat License LLC  
File No.: SES-STA-20180207-00099  
Call Sign: KL92  
Special Temporary Authority

Intelsat License LLC is granted a special temporary authority for 180 days, beginning April 18, 2018 to provide launch and early orbit phase ("LEOP") services for the Netherlands licensed SES-12 Satellite at the in-orbit testing location 81.5° E.L. and permanent orbital location 95° E.L. from Castle Rock, Colorado located at 39° 16' 38.0" N, 104° 48' 26.9" W. The services will be under the following conditions

1. Intelsat will perform LEOP Operations in the 13998.0 MHz, 13996.5 MHz, 13999.5 MHz, 14494.5 MHz, 14496.0 MHz, 14497.5 MHz, 14499.0 MHz (CP) (Earth-to-space) and in the 11499.5 MHz and 11703.5 MHz frequencies (CP) (space-to-Earth) with the coordinated emission carrier 800KF7D, eirp, and eirp density levels.
2. Operations in the 13.75-14.00 GHz shall comply with Footnote US356.
3. Operations in the frequency range 14.47 to 14.5 GHz, should be coordinated with the National Science Foundation, Dr. Glen Langston, 703-292-4937, or [glangstone@nsf.gov](mailto:glangstone@nsf.gov)
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 is shall cease transmission(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. 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 the SES-12 satellite 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.
7. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future Intelsat License LLC- applications.

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.



File # SES-STA-20180207-00099  
Call Sign KL92 Grant Date 4-18-18  
(or other identifier)  
From: 4-18-18 Term Dates To: 10-15-18  
Approved: [Signature]

<b>2. Contact</b>			
<b>Name:</b>	Susan H. Crandall	<b>Phone Number:</b>	703-559-7848
<b>Company:</b>	Intelsat Corporation	<b>Fax Number:</b>	703-559-8539
<b>Street:</b>	7900 Tysons One Place	<b>E-Mail:</b>	susan.crandall@intelsat.com
<b>City:</b>	McLean	<b>State:</b>	VA
<b>Country:</b>	USA	<b>Zipcode:</b>	22102 -5972
<b>Attention:</b>		<b>Relationship:</b>	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. 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 26.9 W
11. Please supply any need attachments.	
Attachment 1: STA Request	Attachment 2: Exhibit A
Attachment 3: Exhibit B	
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 180 days, commencing April 18, 2018, to use its Castle Rock, Colorado Ku-band earth station, call sign KL92, to provide launch and early orbit phase services for the SES-12 satellite. SES-12 is expected to be launched on April 18, 2018. Intelsat expects the LEOP period to</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.	
14. Name of Person Signing	Susan H. Crandall
15. Title of Person Signing	Assoc. 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**

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERM, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to [PRA@fcc.gov](mailto:PRA@fcc.gov). PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

**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 180 days, commencing April 18, 2018, to use its Castle Rock, Colorado Ku-band earth station, call sign KL92, to provide launch and early orbit phase services for the SES-12 satellite. SES-12 is expected to be launched on April 18, 2018. Intelsat expects the LEOP period to last approximately 180 days.

**Intelsat License LLC  
Castle Rock, Colorado**

**NEC Cassegrain 12.5 Meter Earth Station**

**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 the 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:

Coordinates (NAD83):	39° 16' 38" N, 104° 48' 26.9" W
Satellite Arc Range for Earth Station:	SES-12 at 177°W to 32.6°W
Frequency Band:	13.75-14.00 GHz
Polarizations:	Linear & Circular
Emissions:	800KF7D
Modulation:	FM/BPSK/NRZ-L
Maximum Aggregate Uplink EIRP:	92dBW for all Carriers
<b>Transmit Antenna Characteristics</b>	
Antenna Size:	12.5 Meters in Diameter
Antenna Type/Model:	NEC Cassegrain
Gain:	64 dBi
RF Power into Antenna Flange:	28 dBW or 5 dBW/4kHz
Minimum Elevation Angle:	5.02° @ 101.48° Azimuth 5° @ 258.53° Azimuth
Side Lobe Antenna Gain	FCC Reference Pattern

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 GCC Report and Order 96-377 dated September 1996, and consist of (1) Radiolocation and Radio Navigation, (2) Data Relay Satellites.

Summary of Coordination Issues:

- a.) Potential Impact to Government Radiolocation (Shipboard Radar)
- b.) Potential Impact to NASA Tracking and 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. FCC order 96-377 allocates the top 250MHz 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 Castle Rock, Colorado earth station is approximately 1350 km. Therefore, there should be no interference to the US Navy RADAR from the Castle Rock, Colorado facility due to distance and terrain between Castle Rock and the shoreline.

## **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 of less than  $71 \text{ dBW}/6\text{MHz}$  in this band. The 12.5 meter earth station antenna will not transmit in this band. Therefore, there will be no potential interference to the TDRSS space-to-space link.

## **4. Coordination Result Summary and Conclusions**

The results of the analysis and calculation performed in this exhibit indicate that compatible operation between the earth station at the Castle Rock, Colorado facility and U.S. Navy and NASA TDRSS space-to-earth and space-to-space links are possible. No interference to U.S. Navy RADAR or NASA TDRSS operations from the Castle Rock, Colorado site earth station should occur.





**INTELSAT**

*Envision. Connect. Transform.*

February 7, 2018

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 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”)<sup>1</sup> for 180 days, commencing April 18, 2018, to use its Castle Rock, Colorado Ku-band earth station—call sign KL92—to provide launch and early orbit phase (“LEOP”) services for the SES-12 satellite. SES-12 is expected to be launched on April 18, 2018.<sup>2</sup> Intelsat expects the LEOP period to last approximately 180 days.<sup>3</sup>

The SES-12 LEOP operations will be performed at the following frequencies: 13998.0 MHz, 13996.5 MHz, 13999.5 MHz, 14494.5 MHz, 14496.0 MHz, 14497.5 MHz, and 14499.0 MHz (CP) in the uplink; and 11499.5 MHz and 11703.5 MHz (CP) in the downlink. The LEOP operations will be coordinated with all operators of satellites that use the same frequency bands and are in the LEOP path.<sup>4</sup> 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 SES-12 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.

In further support of this request, Intelsat herewith attaches Exhibits A and B, which contain a coordination report and waiver requests. In the extremely unlikely event that harmful interference

---

<sup>1</sup> Intelsat has filed its STA request, FCC Form 159, a \$200.00 filing fee, and this supporting letter electronically via the International Bureau’s Filing System (“IBFS”).

<sup>2</sup> The in-orbit testing location for SES-12, which Intelsat understands is licensed by the Netherlands, will be 81.5° E.L. The final location of SES-12 will be 95.0° E.L.

<sup>3</sup> Intelsat is seeking authority for 180 days to accommodate the longer orbit-raising time period required for an electric propulsion satellite.

<sup>4</sup> Airbus, the manager of the SES-12 LEOP mission, will handle the coordination.

Ms. Marlene H. Dortch  
February 7, 2018  
Page 2

should occur due to transmissions to or from its earth station, Intelsat will take all reasonable steps to eliminate the interference.

Finally, Intelsat clarifies that during the SES-12 LEOP mission, Airbus will serve as the mission manager. Airbus will build and send the commands to the Intelsat antenna, which will process and execute the commands. Telemetry received by Intelsat will be forwarded to Airbus. Intelsat will perform the ranging sessions by sending a tone to the spacecraft periodically. Intelsat will remain in control of the baseband unit, RF equipment, and antenna.

Grant of this STA request will allow Intelsat to help launch the SES-12 satellite. This, in turn, will help provide additional capacity from the 95.0° E.L. orbital location and thereby promotes the public interest.

Please direct any questions regarding this STA request to the undersigned at (703) 559-6949.

Respectfully submitted,

/s/ Susan H. Crandall  
Susan H. Crandall  
Associate General Counsel  
Intelsat Corporation

cc: Paul Blais



**INTELSAT**

*Envision. Connect. Transform.*

February 7, 2018

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 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”)<sup>1</sup> for 180 days, commencing April 18, 2018, to use its Castle Rock, Colorado Ku-band earth station—call sign KL92—to provide launch and early orbit phase (“LEOP”) services for the SES-12 satellite. SES-12 is expected to be launched on April 18, 2018.<sup>2</sup> Intelsat expects the LEOP period to last approximately 180 days.<sup>3</sup>

The SES-12 LEOP operations will be performed at the following frequencies: 13998.0 MHz, 13996.5 MHz, 13999.5 MHz, 14494.5 MHz, 14496.0 MHz, 14497.5 MHz, and 14499.0 MHz (CP) in the uplink; and 11499.5 MHz and 11703.5 MHz (CP) in the downlink. The LEOP operations will be coordinated with all operators of satellites that use the same frequency bands and are in the LEOP path.<sup>4</sup> 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 SES-12 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.

In further support of this request, Intelsat herewith attaches Exhibits A and B, which contain a coordination report and waiver requests. In the extremely unlikely event that harmful interference

<sup>1</sup> Intelsat has filed its STA request, FCC Form 159, a \$200.00 filing fee, and this supporting letter electronically via the International Bureau’s Filing System (“IBFS”).

<sup>2</sup> The in-orbit testing location for SES-12, which Intelsat understands is licensed by the Netherlands, will be 81.5° E.L. The final location of SES-12 will be 95.0° E.L.

<sup>3</sup> Intelsat is seeking authority for 180 days to accommodate the longer orbit-raising time period required for an electric propulsion satellite.

<sup>4</sup> Airbus, the manager of the SES-12 LEOP mission, will handle the coordination.

Ms. Marlene H. Dortch  
February 7, 2018  
Page 2

should occur due to transmissions to or from its earth station, Intelsat will take all reasonable steps to eliminate the interference.

Finally, Intelsat clarifies that during the SES-12 LEOP mission, Airbus will serve as the mission manager. Airbus will build and send the commands to the Intelsat antenna, which will process and execute the commands. Telemetry received by Intelsat will be forwarded to Airbus. Intelsat will perform the ranging sessions by sending a tone to the spacecraft periodically. Intelsat will remain in control of the baseband unit, RF equipment, and antenna.

Grant of this STA request will allow Intelsat to help launch the SES-12 satellite. This, in turn, will help provide additional capacity from the 95.0° E.L. orbital location and thereby promotes the public interest.

Please direct any questions regarding this STA request to the undersigned at (703) 559-6949.

Respectfully submitted,

/s/ Susan H. Crandall  
Susan H. Crandall  
Associate General Counsel  
Intelsat Corporation

cc: Paul Blais