

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
Carpentersville LEOP TT&C STA for EchoStar 23 - Nov 2016 (60-day STA)

I. Applicant

Name: Lockheed Martin Corporation **Phone Number:** 703-413-5970
DBA Name: **Fax Number:** 703-413-5908
Street: 2121 Crystal Drive **E-Mail:** Jennifer.Warren@lmco.com
Suite 100
City: Arlington **State:** VA
Country: USA **Zipcode:** 22202
Attention: Ms Jennifer Warren



File # SES-STA-2016-1018-00848
E7541 Call Sign 1123516 Grant Date 11-23-16
(or other identifier) Term Dates
From: 11-23-16 To: 11-23-16
Approved: [Signature]

Applicant: Lockheed Martin Corporation
Call Sign: E7541
File No.: SES-STA-20161018-00848
Special Temporary Authority (STA)



File # SES-STA-20161018-00848
Call Sign E7541 Grant Date 11/23/16
(or other identifier)
Term Dates
From: 11/25/16 To: 12/25/16
Approved: Paul E. Adams

Lockheed Martin Corporation is granted an extension of 30-day STA to operate its earth station Call Sign E7541 in Carpentersville, New Jersey beginning November 25, 2016 to provide telemetry, tracking and control ("TT&C") functions during the post-launch and transfer orbit phases (LEOP) for the Brazilian licensed EchoStar 23 satellite at 45° W.L. on frequencies 17305.0 MHz and 17791.0 MHz (Earth-to-space) and 12207.0 MHz and 12208.0 MHz (space-to-Earth). Operations are authorized under the following conditions:

1. Operations will not exceed the operational power levels and parameters requested and coordinated.
2. All operations under this grant of STA shall be on an unprotected and non-harmful interference basis. Lockheed Martin Corporation shall not cause harmful interference to, and shall not claim protection from interference caused to it by, any other lawfully operating radio communication system.
3. In the event of any harmful interference Lockheed Martin Corporation shall cease operations immediately upon notification of such interference, and shall immediately inform the Commission, in writing, of such an event.
4. 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 EchoStar 23 satellite LEOP mission is as follows: Cell Phone: (609) 865-2658 and/or station number (908) 859-4050. Request to speak with Mr. Usarzewicz.
5. Grant of this STA is without prejudice to any determination that the Commission may make regarding pending or future Lockheed Martin Corporation LLC applications.
6. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Lockheed Martin Corporation LLC's risk.

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

2. Contact	
Name: Ryan N. Terry	Phone Number: 703-413-5747
Company: Lockheed Martin Corporation	Fax Number: 703-413-5908
Street: 2121 Crystal Drive Suite 100	E-Mail: ryan.n.terry@lmco.com
City: Washington	State: DC
Country: USA	Zipcode: 22202 -
Attention:	Relationship: Same
(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 SESLIC2008110301443 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 11/25/2016	
7. City Carpentersville	
8. Latitude (dd mm ss.s h) 40 38 39.1 N	

9. State NJ	10. Longitude (dd mm ss.s h) 75 11 27.8 W
11. Please supply any need attachments. Attachment 1: STA extension Attachment 2: 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>Lockheed Martin Corporation hereby requests Special Temporary Authority beginning November 25, 2016, to operate its Carpentersville, New Jersey fixed earth station (Call Sign E7541) to provide telemetry, tracking and control (TT&C) functions during the post-launch and early orbit phases (LEOP) of operation for the EchoStar 23 satellite.</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. Yes <input checked="" type="radio"/> No <input type="radio"/>	
14. Name of Person Signing Jennifer A. Warren	15. Title of Person Signing Vice President, Technology Policy & Regulation
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.

Description of Operations and Public Interest Statement

Pursuant to 47 CFR 25.120 of the Commission's Rules, Lockheed Martin Corporation ("Lockheed Martin") hereby requests extension of Special Temporary Authority ("STA") for a period of sixty (60) days to operate its Carpentersville, New Jersey fixed earth station (Call Sign E7541) to provide telemetry, tracking and control ("TT&C") functions during the post-launch and early orbit phases ("LEOP") of operation for the EchoStar 23 satellite.

EchoStar 23 is a Space Systems Loral Model SSL-1300 Ku-band Broadcasting-Satellite Service ("BSS") satellite authorized under Brazilian authority for operations at the 45° W.L. orbital location by EchoStar 45, an EchoStar affiliate. The satellite will provide direct-to-home ("DTH") television service to Brazil from its assigned orbital location.

The satellite is scheduled for an upcoming launch aboard a SpaceX Falcon 9 launch vehicle from Cape Canaveral, Florida, as early as October 25, 2016.¹ Lockheed Martin previously submitted a request for STA to coincide with that possible launch date.² However, as outlined in that same request, recent events at the Cape Canaveral launch facility have resulted in unforeseen delays for all planned launches in the immediate future. Accordingly, because of the uncertainty as to when the launch will be assigned a date, and out of an abundance of caution to ensure that authority is in place, Lockheed Martin respectfully requests STA extension for up to sixty (60) days, for the period of November 25, 2016 to January 24, 2017. Despite this window, as stated in its initial request, Lockheed Martin expects that all Carpentersville operations in support of the launch will be completed within ten (10) days after the EchoStar 23 satellite is launched.

1. Requested STA Operations

Lockheed Martin specifically seeks authority to transmit telecommand signals at the center frequencies 17305.0 and 17791.0 MHz for in transit telecommand communications (Earth-to-space), and to receive telemetry signals from the satellite on 12207.0 and 12208.0 MHz frequencies.

The proposed TT&C operations in support of the EchoStar 23 launch will be on a strictly non-harmful interference, non-protected basis. Lockheed Martin's proposed transmissions will use total input power and emissions for Ku-band telecommand that will fall below the highest input power, EIRP, EIRP density, and bandwidth prescribed for the telecommand carriers in its above-referenced FCC license. When no commands are being sent, a CW carrier that is within

¹ As the Bureau is aware, recent events at the Cape Canaveral launch facility have resulted in unforeseen delays. Because of the uncertainty related to the actual launch date, Lockheed Martin will be submitting a concurrent STA extension request for a period of up to sixty (60) days. Nonetheless, in the event that the launch is permitted to take place on October 25, Lockheed Martin respectfully requests Commission consideration of its request for authority to commence from that date onward.

² FCC File No. SES-STA-20161007-00831.

the emission of the licensed operation would be present. However, in the case of an anomaly, extraordinary measures, such as increasing power, may be necessary; if such measures are required during this STA period, Lockheed Martin will notify the FCC within seven (7) business days that such measures were needed.

Lockheed Martin incorporates by reference the radiation hazard study and Schedule B information that were included with its most recent filings at the FCC. In addition, Lockheed Martin is submitting herewith a Frequency Coordination Report prepared by Comsearch.

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to, or reception from, EchoStar 23 is to occur through the subject earth station. Mr. Usarzewicz can be reached at the following cell phone number: (609) 865-2658 and/or station number: (908) 859-4050.

2. Grant of the Requested Authority Will Serve the Public Interest

Lockheed Martin believes that the limited operations it proposes in support of the launch of the EchoStar 23 satellite serve the public interest. Lockheed Martin understands that the EchoStar 23 satellite has been licensed by the Brazilian Administration to provide DTH television service to Brazil. Lockheed Martin's Carpentersville earth station will be part of a global network of control facilities that will be used solely to position the satellite as it progresses from transfer orbit to its final location. No end user service will be provided within the United States at any time. The safe and orderly use of the entire geostationary orbital resource and protection of the hundreds of satellites licensed by the U.S. and other countries that operate there depends in no small part on ensuring that the EchoStar 23 satellite is controlled while over North America en route to its final geostationary orbital position. In this regard, Lockheed Martin's earth station thus will serve a vital function.

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Lockheed Martin requests authority to operate its Carpentersville, NJ earth station antenna to provide critical TT&C services during the launch and early operations phase of the EchoStar 23 satellite, for a term of 60 days, through January 24, 2017.

Operating Parameters for Proposed Carpentersville, NJ Ku-Band TT&C LEOP STA

SITE NAME (or identifier):	Carpentersville, NJ – Call Sign E7541
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Antenna location

Longitude (deg, min, sec- <i>NAD 83</i>)	75 ° 11 ' 27.8 " W
Latitude (deg, min, sec- <i>NAD 83</i>)	40 ° 38 ' 39.1 " N
Antenna Height:	19.2 m
Ground Elevation (AMSL):	85.7 m

Antenna Characteristics (size & gain)

Size	14.2
TX Gain	57.3 dBi @ 6.0 GHz
RX Gain	53.9 dBi @ 4.0 GHz
Antenna Model	14.2 KFPA
Antenna Manufacturer	TIW (GD SATCOM)

Maximum HPA Power	650W
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