


APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
Carpentersville TT&C LEOp STA for SES-8 - November 2013

1. 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



GRANTED
International Bureau


File # SES-STA-20131101-00922
E7541
Call Sign (or other identifier) E7541
Grant Date 11-18-13
Term Dates From 11-19-13 To 12-19-13
Approver: *Jennifer Warren*

Applicant: Lockheed Martin Corporation
Call Sign: E7541
File No.: SES-STA-20131101-00922
Special Temporary Authority (STA)

Lockheed Martin Corporation is granted STA to operate its earth station Call Sign E7541 in Carpentersville, New Jersey for 30 days with the following conditions:

1. The Netherlands SES-8 will be at permanent orbital location 95° E.L and in-orbit location testing will be 81.5° E.L. TT&C operations will be performed on uplink frequency 13.996 GHz and receive telemetry signal on 11.1985 GHz and 12.2485 GHz .
2. Operations, shall not cause harmful interference to, and shall not claim operation from, interference caused to it by any other lawfully operating station and it shall cease transmission(s) immediately upon notice of such interference.
3. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future Lockheed Martin Corporation's applications.
4. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Lockheed Martin Corporation's risk.
5. Lockheed Martin's contact person during the operation with SES-8 will be Mr. Michael Usarzewicz, cell phone number (609) 865-2658 or phone number at the station (908) 859-4050.

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.

 GRANTED International Bureau	File # <u>SES-STA-20131101-00922</u>
	Call Sign <u>E7541</u> Grant Date <u>11-18-13</u>
	(or other identifier)
	From <u>11-19-13</u> Term Dates To: <u>12-18-13</u>
	Approved: <u>Paul E. Blawie</u>

2. Contact

Name: David S. Keir **Phone Number:** (202) 429-8970
Company: Lerman Senter PLLC **Fax Number:** (202) 293-7783
Street: 2000 K Street, NW **E-Mail:** dkeir@lermansenter.com
Suite 600
City: Washington **State:** DC
Country: USA **Zipcode:** 20006 -1809
Attention: David S. Keir **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?

If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).

Governmental Entity Noncommercial educational licensee

Other (please explain):

4b. Fee Classification CGX – Fixed Satellite Transmit/Receive Earth Station

5. Type Request

Use Prior to Grant Change Station Location Other

6. Requested Use Prior Date
11/19/2013

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 Attachment 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 requests Special Temporary Authority for a 30-day period, commencing November 19, 2013, to use the Ku-band antenna at its Carpentersville, NJ earth station (Call Sign E7541) to support post-launch/early-orbit operations TT&C for the SES-8 satellite, which is expected to be launched on or about November 22, 2013. See Attachment.</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 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

Lockheed Martin Corporation (“Lockheed Martin”) requests special temporary authority (“STA”) to operate its Carpentersville, New Jersey Ku-band fixed earth station (*see* File No. SES-LIC-20081103-01443, as amended)¹ to provide telemetry, tracking and control (“TT&C”) functions during the post-launch and transfer orbit phases of operation for the Netherlands-licensed SES-8 satellite. SES-8 is destined for operation at the 95° East Longitude orbital location, and is currently scheduled for launch on November 22, 2013 aboard a Falcon 9 launch vehicle from Cape Canaveral, Florida.² Accordingly, Lockheed Martin would likely need to begin test transmissions in preparation for the launch on or about November 19, 2013.³

Lockheed Martin specifically seeks authority to transmit telecommand signals on the 13.996 GHz frequency for in transit communications, and to receive telemetry signals from the satellite on the 11.1985 GHz and 12.2485 GHz frequencies. Additional technical parameters for the STA operation are set forth in the chart on page 3 of this narrative. Lockheed Martin is requesting the duration of this STA to be a total of thirty (30) days from November 19, 2013, to cover any slippage in the anticipated dates of the various phases of operation; it nonetheless expects that all Carpentersville operations in support of the launch will be completed for SES-8 within ten (10) days after the satellite is launched.

Lockheed Martin’s proposed transmissions will use total input power and emissions for telecommand that will fall below the highest input power, e.i.r.p., e.i.r.p. density, and bandwidth prescribed in the pending license application for the telecommand carriers. When no commands are being sent, a CW carrier that is within the emission envelope proposed in Lockheed Martin’s application, as amended, would be present. *See* File No. SES-AMD-20081219-01664, at Schedule B. The information in the Schedule B portion of Lockheed Martin’s pending application in File No. SES-LIC-20081130-01443, as amended, is hereby incorporated by reference. All of Lockheed Martin’s proposed TT&C operations in support of the SES-8 launch will be on a strictly non-harmful interference, non-protected basis.

¹ The pending application in File No. SES-LIC-20081103-01443, under Call Sign E7541, was filed on a provisional basis to replace Lockheed Martin’s license for a 14.2 meter Ku-band antenna at the Carpentersville, NJ site under Call Sign E920702, for which it inadvertently did not file a timely renewal application. Lockheed Martin’s petition to reinstate the license for Call Sign E920702, as well as the “replacement” application it filed in the alternative under File No. SES-LIC-20081103-01443 and Call Sign E7541, both remain pending.

² *See, e.g.*, Peter B. de Selding, “SES-8 Satellite Arrives at Cape for Falcon 9 Launch,” Space News, October 8, 2013. The in-orbit testing location will be 81.5° E.L.

³ The test transmissions that would begin on or about November 19th would occur over a period of approximately two to three days. During these tests, the earth station would not be communicating with any satellite; instead, the transmissions will be made with the antenna at zenith to verify RF functionality.

Lockheed Martin believes that the limited operations it proposes in support of the launch of the SES-8 satellite are required in the public interest. Operations will be coordinated in advance with any and all potentially affected entities that operate communications systems in compliance with the Table of Frequency Allocations during the limited period of use.⁴ SES-8 will be co-located with NSS-6 to provide additional capacity over the Asia-Pacific region, with high performance beams supporting rapidly growing markets in South Asia and Indo-China, as well as providing expansion capacity for direct-to-home, very small aperture terminals and government applications. Lockheed Martin's Carpentersville earth station will be part of a global network of control facilities that will be used to position the satellite as it progresses from transfer orbit to its final location. 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 SES-8 satellite is controlled while over North America; Lockheed Martin's earth station thus will serve a vital function. Another U.S.-licensed earth station has recently been authorized on a similar STA basis for TT&C LEOp in connection with the planned SES-8 launch. *See* Intelsat License LLC, File No. SES-STA-20130910-00790, Call Sign KA258 (granted Sept. 20, 2013).

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to, or reception from, SES-8 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.

The antenna to be used for this STA is already built. It is the same antenna that was authorized under Call Sign E920270 and that is now the subject of the pending reinstatement request described in Note 1 above, and has been used on an STA-basis to support other satellite launches. *See, e.g.*, Request of Lockheed Martin Corp. for STA to operate Carpentersville, NJ earth station in support of launch of Eutelsat 25B, SES-STA-20130809-00708 (granted Aug. 26, 2013); Request of Lockheed Martin Corp. for STA to operate Carpentersville, NJ earth station in support of launch of Amazonas-3, File No. SES-STA-20130122-00078 (granted Feb. 4, 2013); Request of Lockheed Martin Corp. for STA to operate Carpentersville, NJ earth station in support of launch of SES-4, File No. SES-STA-20111209-01447 (granted Dec. 14, 2011). For this reason, Lockheed Martin does not provide a new analysis of non-ionizing radiation for the antenna, or any of the detailed transmission/reception parameters for the signals. Instead, Lockheed Martin incorporates by reference the radiation hazard study and Schedule B information that were included with the November 2008 modification application in File No. SES-LIC-20081103-01443, as amended.

In sum, Lockheed Martin requests authority to operate its Carpentersville, NJ Ku-band earth station antenna to provide critical TT&C services during the launch and early operations phase of the SES-8 satellite, for a term of 30 days commencing November 19, 2013.

⁴ Orbital Sciences Corporation, the manager of the SES-8 LEOp mission, will handle the coordination.

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- NAD 83)	75 ° 11 ' 27.8 " W
LATITUDE (deg, min, sec- NAD 83)	40 ° 38 ' 39.1 " N
ANTENNA HEIGHT IN METERS:	19.2
GROUND ELEVATION (AMSL)	85.7 m
ANTENNA LOCATION: GROUND:	Yes
ROOF (Meters)	
BUILDING HEIGHT (Meters)	

Antenna Characteristics (size & gain)	
SIZE	14.2
TX GAIN	63.5 dBi @ 14.0 GHz
RX GAIN	62.9 dBi @ 12.0 GHz
ANTENNA MODEL	14.2 KFPA
ANTENNA MANUFACTURER	TIW (GD SATCOM)

MAXIMUM HPA POWER	650W
TOTAL EIRP FOR ALL CARRIERS	88.0 dBW

SATELLITES ARC TO COORDINATE	5 to 150 degrees W
SATELLITES DESIRED:	SES-8 LEOP

UPLINK FREQUENCIES:	13996.0 MHz RHCP
DOWNLINK FREQUENCIES:	12248.5 & 11198.5 MHz LHCP

Uplink carrier parameters			
TYPE OF SERVICE (broadcast data TTC)	TTC		
DATA RATE(S):	1000 bps		
MODULATION:	PCM/FM/PSK		
POLARIZATION	RHCP		
FORWARD ERROR CODING RATE:	none		
OCCUPIED BANDWIDTH	850 kHz		
UPLINK EIRP PER CARRIER	One Cxr only		

Downlink Carrier Parameters			
TYPE OF SERVICE (broadcast data TTC)	TM		
DATA RATE(S):	4800		
POLARIZATION:	LHCP		
MODULATION:	PCM/PM		
OCCUPIED BANDWIDTH	288 KHz		