

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:
Carpentersville TT&C STA for HellasSat 4 - 2019-03 (30-Day STA)

1. Applicant

Name:	Lockheed Martin Corporation	Phone Number:	703-413-5747
DBA Name:		Fax Number:	703-413-5908
Street:	2121 Crystal Drive Suite 100	E-Mail:	ryan.n.terry@lmco.com
City:	Arlington	State:	VA
Country:	USA	Zipcode:	22202
Attention:	Ryan N. Terry		

 GRANTED International Bureau	File #	SES-STA-20190317-00360
	Call Sign	WTS4
	Grant Date	4-1-19
	(or other identifier)	
	Term Dates	
	From:	4-1-19
	To:	5-1-19
	Approved:	<i>Paul E. Blair</i>

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 SESSTA2019012900049 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 03/18/2019			
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.) Lockheed Martin Corporation hereby requests extension of its Special Temporary Authority from March 18, 2019, to operate its Carpentersville, New Jersey fixed earth station (Call Sign E7541) to provide telemetry, tracking and control (TT&C) functions during the Electric Orbit Raising (EOR) phase of operation for the HellasSat 4 satellite.	
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 ☒ No ☐	
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.

Applicant: Lockheed Martin Corporation
Call Sign: E7541
File No.: SES-STA-20190317-00360
Special Temporary Authority ("STA")



File # SES-STA-20190317-00360
E7541
Call Sign E7541 Grant Date 4-1-19
(or other identifier)
Term Dates
From: 4-1-19 To: 5-1-19
Approved: Paul E. Hays

Lockheed Martin Corporation is granted extension of STA to operate for 30 days its 14.2m TIW Systems model STD 14.2-MET antenna located at geographic coordinates 40° 38' 39.1N/ 75° 11' 27.8"W in Carpentersville, New Jersey to provide telemetry, tracking, and control ("TT&C") functions during the electric propulsion monitoring for the HellasSat 4/SaudiGeoSat 1 ("HS4") satellite at orbital location 39.0°E on frequencies: 5928.0 MHz and 6422.0 MHz (LHCP/RHCP) (Earth-to-space) and 3704.25 MHz and 4199.0 MHz (LHCP/RHCP) (space-to-Earth). Operations are authorized under the following conditions:

1. Operations will not exceed the operational power levels and parameters requested:

Maximum eirp density: 19.0 dBW/4kHz
Maximum eirp: 91.5 dBW for all carriers
Uplink emission: 1M50F2D
Downlink emission: 1M00G8D

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. Currently the 24x7 contact information for the HS4 satellite mission is as follows: Cell Phone: (609) 865-2658 and/or earth station desk number (908) 859-4050. Request to speak with Michael Usarzewicz.

5. Grant of this STA is without prejudice to any determination that the Commission may make regarding pending or future Lockheed Martin Corporation applications.

6. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Lockheed Martin Corporation's risk.

7. Operations of this station during the period from expiration of March 17, 2019, FCC IBFS file number SES-STA-2019012-00049, to the grant of this STA was authorized pursuant to Section 1.62 of the Commission's rules, 47 C.F.R. § 1.62.

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.

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 Special Temporary Authority ("STA") for a period of thirty (30) days to operate its Carpentersville, New Jersey fixed earth station (Call Sign E7541) to provide telemetry, tracking, and control ("TT&C") functions during the Electric Orbit Raising ("EOR") period of operation, ranging, and electric propulsion monitoring for the HellasSat 4/ SaudiGeoSat 1 ("HS4") satellite, which Lockheed Martin has manufactured.

HS4 is destined for in-service operation at 39.0° E.L. The HS4 satellite was successfully launched on February 5, 2019, aboard an Ariane 5 ECA rocket, from Guiana Space Center. The spacecraft is currently undergoing its EOR milestones.

The all-electric propulsion system of HS4 requires extended support for the completion of the mission. Accordingly, Lockheed Martin is requesting herein extension of its current authority request for an additional thirty (30) days, from March 18, 2019, to continue its support of EOR and in-orbit testing being conducted by the launch provider.¹

1. Requested STA Operations

The EOR TT&C and ranging signals are being transmitted in the standard C-band for which Lockheed Martin has authority under Call Sign E7541. As to the instant request for STA, Lockheed Martin seeks herein authority to communicate with HS4 as a point of communication on two C-band frequencies that fall outside of the currently authorized transmit frequencies for the earth station.

The TT&C operations that support the HS4 mission are on a strictly non-harmful interference, non-protected basis. When no commands are being sent, a CW carrier that is within the emission of the licensed operation would be present. 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 that was included with its most recent filings at the FCC. In addition, Lockheed Martin is submitting herewith a Frequency Coordination and Interference Analysis Report prepared by Comsearch.

¹ STA for this extended mission was most recently granted under FCC File No. SES-STA-20190129-00049.

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to HS4 is to occur through the subject earth station. Mr. Usarzewicz can be reached at the following phone numbers:

(609) 865-2658 (cellular)
(908) 859-4050 (earth station desk)

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

Lockheed Martin believes that these limited operations in support of the HS4 mission serve the public interest. Lockheed Martin understands that the HS4 satellite will provide to provide in-orbit backup, redundancy services for HellasSat 3 and further expansion over Europe and Southern Africa, through increased Ku-band capacity.

Lockheed Martin's Carpentersville earth station is part of a global network of control and ranging facilities that is being used solely to position the satellite as it progresses from transfer orbit to its final location and to calibrate electric propulsion. No end user service is being or 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 HS4 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.

* * * * *

Lockheed Martin requests authority to operate its Carpentersville, NJ earth station antenna to provide critical TT&C and ranging services during the EOR mission of the HellasSat 4/SaudiGeoSat 1 satellite, for a term of 30 days, form March 18, 2019.

TECHNICAL DETAILS OF SPECIAL TEMPORARY AUTHORITY

Satellite Characteristics

Satellite: HellasSat 4/ SaudiGeoSat 1 Electric Orbit Raising
Orbital Location: 39.0° E.L.
Manufacturer: Lockheed Martin Corporation
Launch Vehicle: Ariane 5 ECA

* * *

Earth Station Characteristics

Antenna: 14.2-m TIW Systems
Antenna Location: 40°38' 39.1" N / 075° 11' 27.8" W
Telecommand Uplink Frequencies:
5928.0 MHz (LHCP/RHCP)
6422.0 MHz (LHCP/RHCP)
Telemetry Downlink Frequencies:
4199.0 MHz (LHCP/RHCP)
3704.25 MHz (LHCP/RHCP)
Antenna Gain: 57.3 dBi @ 6 GHz
Antenna Power: 34.0 dBW (into the flange)
Maximum EIRP: 91.5 dBW for all carriers
EIRP Density: 19.0 dBW/4kHz
Uplink Emission: 1M50F2D
Downlink Emission: 1M00G8D