

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
Request for 60-day STA re

1. Applicant

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Country:	USA	Zipcode:	22202 -
Attention:	Ms Jennifer Warren		



File # SES-STA-20111209-01447
Call Sign E7541 **Grant Date** 12/14/2011
(or other identifier)
Term Dates
From 12/25/2011 **To:** 02/23/2012
Approved: Paul E. Blawie

Conditions:

Applicant: Lockheed Martin Corporation
File Number: SES-STA-20111209-01447
Call Sign: E7541

Lockheed Martin Corporation is granted, under the following conditions, Special Temporary Authority for 60 days, from 12/25/2011 through 2/23/2012, to operate as described in SES-STA-20111209-01447 with SES-4, within the parameters of pending license SES-LIC-20081103-01443 and on the following conditions:

1. Operations under this authority are on a non-interference basis only.
2. Operations under this authority are on a non-protected basis only.
3. Prior to performing in-orbit testing operations coordination of in-orbit testing operations must be completed with entities operating satellites within +/- 6 degrees of the 26° W.L. orbital location.

60 days "with conditions"



File # SES-STA-20111209-01447

Call Sign E7541 Grant Date 12/14/2011
(or other identifier)

Term Dates
From 12/25/2011 To 02/23/2012

Approved: Paul E. Miller

Exhibit A
Lockheed Martin Corporation
Carpentersville, NJ Earth Station
Call Sign E7541
STA Request for
LEOp/IOT TT&C Operations
December 2011

Description

Lockheed Martin Corporation (“Lockheed Martin”) requests special temporary authority (“STA”) to operate its Carpentersville, New Jersey Ku-band fixed earth station antenna (see File No. SES-LIC-20081103-01443, as amended)¹ to provide telemetry, tracking and control (“TT&C”) functions during the post-launch, transfer orbit, and in-orbit testing (“IOT”) phases of operation for the SES-4 satellite that will be operated by New Skies Satellites B.V., a sister company of SES Americom, Inc. (“SES Americom”). SES-4 is currently scheduled for launch on December 26, 2011, and Lockheed Martin intends to perform test transmissions in preparation for the launch on or about December 25, 2011.² To the extent required to meet this timetable, Lockheed Martin requests expedited treatment of the instant STA request and action by December 23, 2011.

Lockheed Martin specifically seeks authority to transmit command/ranging signals in the 14499 MHz, 14498 MHz, and 14496 MHz frequencies. The earth station would receive telemetry signals from the SES-4 satellite on the 11451 MHz and 12502 MHz primary telemetry frequencies or the 11454 MHz and 12500.5 MHz spare telemetry frequencies. Only one set of telemetry frequencies would be in use at any time. The mission duration for the TT&C operations requested here – including the one day of calibration testing – is 60 days. Specifically, Lockheed Martin requests authority to conduct calibration testing on December 25, 2011 followed by 59 days of post-launch/early operations/IOT TT&C support for the SES-4 satellite – from the December 26, 2011 launch until the scheduled end of testing on February 23, 2012.³ Lockheed Martin thus requests an STA term of 60 days that runs from December 25, 2011 to February 23, 2012, inclusive.⁴

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 inadvertently non-renewed license for a 14.2 meter Ku-band antenna at the Carpentersville, NJ site under Call Sign E920702. 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, are pending.

² The test transmissions that would begin on December 25, 2011 would occur only that day. 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.

³ Lockheed Martin understands that the SES-4 satellite is expected to be located at 26° W.L. for IOT before being relocated to its designated location at the nominal 22° W.L. slot.

⁴ While Lockheed Martin does not intend to submit a modification of license application to accommodate the temporary operation envisioned here, it submits that a 60-day temporary authorization is nevertheless appropriate. New Skies Satellites B.V. (d/b/a SES World Skies) has petitioned the Commission to add the SES-4 satellite to the

The transmit frequencies Lockheed Martin seeks to use for the SES-4 TT&C support operations are in the conventional Ku-band FSS uplink band at 14-14.5 GHz, and are included on Lockheed Martin's former license for Call Sign E920702 and current application for the Ku-band antenna in File No. SES-LIC-20081103-01443 (under Call Sign E7541). The band is not shared with terrestrial primary services, so no frequency coordination is required. Lockheed Martin notes, moreover, that the Commission previously granted Lockheed Martin STA requests for launch and early-operations TT&C support using frequencies in the ranges sought in the instant STA request. The Commission has granted Lockheed Martin STA requests for launch and early-operations ("LEOp") TT&C support using its Carpentersville, New Jersey earth station facilities. Most recently, the Commission authorized Lockheed Martin to perform launch support operations for the AsiaSat-7 satellite in November 2011. *See, e.g.*, Request of Lockheed Martin Corp. for STA to support LEOp TT&C Functions of AsiaSat-7, File No. SES-STA-20111108-01341. *See also* Request of Lockheed Martin Corp. for STA to support LEOp TT&C Functions of QuetzSat-1, File No. SES-STA-20110919-01105; Request of Lockheed Martin Corp. for STA to support LEOp TT&C Functions of BSAT-3c, File No. SES-STA-20110504-00547; and Request of Lockheed Martin Corp. for STA to Support LEOp TT&C Functions for EchoStar-7, File No. SES-STA-20020208-00160. Lockheed Martin's pending license application in File No. SES-LIC-20081103-01443 included a radiation hazard study for this frequency range that Lockheed Martin hereby incorporates by reference. *See* Exhibit 28 to Application of Lockheed Martin Corporation, File No. SES-LIC-20081103-01443.

Lockheed Martin's proposed transmissions in the 14496-14499 MHz range will use the emission designators for telecommand functions that are proposed in the pending license application, or will use carriers that do not exceed the highest e.i.r.p., e.i.r.p. density, and bandwidth prescribed in the 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. Lockheed Martin notes that it is possible that during an unexpected emergency with the satellite, the power levels proposed for the earth station in the 2008 application as amended may need to be exceeded to help recover the satellite. Under these extremely unlikely circumstances, Lockheed Martin will make every effort to coordinate such operations with affected users, and will take all reasonable steps to swiftly eliminate any harmful interference caused. Lockheed Martin fully understands that all of its proposed launch, early-operations, and IOT TT&C support for the SES-4 launch will be on a strictly non-harmful interference, non-protected basis.

Permitted List for conventional C-band and Ku-band fixed-satellite services. *See* File No. SAT-PPL-20110620-00112 (filed June 20, 2011). The SES World Skies petition, which included demonstrations of how the telemetry operations in the 11/12 GHz downlink bands would be conducted, was accepted for filing on July 8, 2011, and remains pending before the Commission. The application described the TT&C subsystem of SES-4, including the downlink telemetry channels identified here. In addition, as noted above, Lockheed Martin has an application pending for authority to transmit in the 14.0-14.5 GHz band from the earth station proposed here pending before the Commission. Under these circumstances, a 60-day STA is warranted under Section 25.120(b)(3), 47 C.F.R. § 25.120(b)(3).

The 11/12 GHz band receive frequencies from SES-4 are outside the 11.7-12.2 GHz range that was authorized to Lockheed Martin under Call Sign E920702 and that is proposed in the license “replacement” application under Call Sign E7541. The parameters of the receive operations at Lockheed Martin’s earth station, however, are within the parameters in the pending application referenced in Note 1 above, and the space station transmit parameters from SES-4 that are contemplated here are as proposed by SES World Skies in the pending petition in File No. SAT-PPL-20110620-00112 as referenced in Note 3 above.

Lockheed Martin believes that the limited operations it proposed in support of the launch and IOT of SES-4 – operations Lockheed Martin and the satellite operator will coordinate 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 – are required in the public interest. For LEOp services, Lockheed Martin’s 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 from the U.S. and other countries that operate there depends in no small part on ensuring that the SES-4 satellite is controlled while over North America, and Lockheed Martin’s earth station thus will serve a limited-duration, but nonetheless vital function.

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to, or reception from, SES-4 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 operations under the proposed STA is already built. It is the same antenna that was previously authorized under Call Sign E920270 and that is now the subject of the pending application and reinstatement request described in Note 1 above, and, as noted, has been authorized for use on an STA-basis to support other satellite launches.

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 and IOT phases of the SES-4 satellite, for a term of 60 days – December 25 for calibration testing, and December 26, 2011 - February 23, 2012 for launch support and IOT (including the move from the IOT slot to the 22° W.L slot from which SES-4 is to offer service).

2. Contact

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Attention:		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 SESLIC2008110301443 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
12/25/2011

7. City Carpentersville

8. Latitude
(dd mm ss.s h) 40 38 39.0 N

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