

Description of Operations and Public Interest Statement

Lockheed Martin Corporation (“Lockheed Martin”) requests special temporary authority (“STA”) to operate its Carpentersville, New Jersey fixed earth station (located at 75° 11' 29.0" West longitude, 40° 38' 39.0" North latitude; *see* File No. SES-LIC-20081103-01443, as amended)¹ to provide telemetry, tracking and control (“TT&C”) functions during the post-launch and early orbit phases (“LEOP”) of operation for the Intelsat 30 satellite (“IS-30”). IS-30 is destined for operation at the nominal 95° West longitude orbital location (95.075° W.L.), and is currently scheduled for launch on October 16, 2014 aboard a Ariespace 5 launch vehicle from Europe’s Spaceport at the Guiana Space Center, Kourou, French Guiana.² Accordingly, Lockheed Martin requests to begin test transmissions on October 13, 2014 in preparation for the launch scheduled on or about October 16, 2014.³

1. Requested STA Operations

Lockheed Martin specifically seeks authority to transmit telecommand signals at the center frequencies 13750.5 MHz and 14003.5 MHz for in transit telecommand communications (Earth-to-space), and to receive telemetry signals from the satellite (space-to-Earth) at the center frequencies 11198.0 MHz, 11198.5 MHz, 11199.25 MHz and 11199.75 MHz. Lockheed Martin is requesting that the duration of this STA be a total of thirty (30) days commencing October 13, 2014 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 within ten (10) days after the IS-30 satellite is launched.

¹ The pending application in File No. SES-LIC-20081103-01443, under Call Sign E7541, was filed on a provisional basis while Lockheed Martin’s license for a 14.2 meter Ku-band antenna at the Carpentersville, NJ site (under Call Sign E920702) remains the subject of a pending petition for reinstatement. 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* Ariespace Readies 75th Ariane 5 To Launch Measat-3b And Optus 10 Satellites, Spaceflight Insider, dated September 10, 2014, available at: <http://www.spaceflightinsider.com/organizations/arianespace/arianespace-readies-75th-ariane-5-rocket-launch-sept-11/> (last viewed 9/10/2014) (The September 11, 2014 “launch is not the last planned flight of the Ariane 5 for 2014. If everything goes according to plan, another one of the rockets will deliver the Intelsat 30 and Arsat 1 on Oct. 16”).

³ The test transmissions that would begin on or about October 13th 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'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 former FCC license and pending FCC application. When no commands are being sent, a CW carrier that is within the emission of Lockheed Martin's E7541 operation would be present. *See, e.g.*, 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 IS-30 launch will be on a strictly non-harmful interference, non-protected basis. Further, as shown in the attached table of technical parameters, operations in the 13.75-14.0 GHz band comply with the antenna diameter and EIRP requirements of Section 25.204(f) of the Commission's Rules. In case of an anomaly, extraordinary measures, such as a short-term increase in power, may be necessary to maintain safe operation of the satellite. In the event that such extraordinary measures are required during the term of the requested STA, Lockheed Martin will notify the FCC as soon as possible that such measures have been implemented.

The facility to be used for this STA is already built. It is the same facility that was authorized under Call Sign E7541 and that is now the subject of the pending request described in Note 1 above, and has been used during the pendency of that request on an STA-basis to support many other satellite launches. *See, e.g.*, Request of Lockheed Martin Corp. for STA to operate Carpentersville, NJ earth station in support of launch of Astra 5-B, SES-STA-20140310-00134 (granted Mar. 14, 2014); Request of Lockheed Martin Corp. for STA to operate Carpentersville, NJ earth station in support of launch of ABS-2, SES-STA-20140103-00005 (granted Jan. 28, 2014); Request of Lockheed Martin Corp. for STA to operate Carpentersville, NJ earth station in support of launch of SES-8, SES-STA-20131101-00922 (granted Nov. 18, 2013). 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.

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to, or reception from, IS-30 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 IS-30 satellite are required in the public interest. Lockheed Martin understands that the IS-30 satellite has been licensed by the FCC (File No. SAT-LOA-20121025-00187; Call Sign S2887) to operate in geostationary orbit at 95.075° W.L. for the provision of communications services primarily to South America. 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 IS-30 satellite is controlled while over North America en route to its final geostationary orbital position; Lockheed Martin's earth station thus will serve a vital function.

* * * * *

As outlined above, 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 IS-30 satellite, for a term of 30 days commencing October 13, 2014.

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

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

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 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

Satellites Arc To Coordinate 5 to 150 degrees W

Satellites Desired: IS-30 LEOP

Uplink Carrier Parameters

Type of Service (Broadcast Data TTC)	TTC
Data Rate(S):	1000 bps
Modulation:	PCM/FM/PSK
Polarization:	LHCP and RHCP
Forward Error Coding Rate:	None
Occupied Bandwidth	850 kHz
Emission Designators	850KFXD and 850KF2D

Transmit 13750.5 MHz

Uplink EIRP Per Carrier One Cxr only (85 dBW)

Transmit 14003.50 MHz

Uplink EIRP Per Carrier One Cxr only (88 dBW)

Receive 11198.0 MHz, 11198.5 MHz, 11199.25 MHz and 11199.75 MHz LHCP and RHCP