

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 (*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 Astra-5B satellite. Astra-5B is destined for operation at the 31.5° East longitude orbital location (31.5° E.L.), and is currently scheduled for launch on March 21, 2014 aboard an Ariane 5 launch vehicle from the European spaceport in Kourou, French Guyana. Accordingly, Lockheed Martin would likely need to begin test transmissions in preparation for the launch on or about March 18, 2014.² To the extent required to meet this timetable, Lockheed Martin requests expedited treatment of the instant STA request.

1. Requested STA Operations

Lockheed Martin specifically seeks authority to transmit telecommand signals at the center frequencies 17308.0 MHz and 18091.5 MHz for in transit communications, and to receive telemetry signals from the satellite on the 11709.5 MHz and 12490.0 MHz frequencies. Lockheed Martin is requesting the duration of this STA to be a total of thirty (30) days from March 18, 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 Astra-5B satellite is launched. All of Lockheed Martin’s proposed TT&C operations in support of the ABS-2 launch will be on a strictly non-harmful interference, non-protected basis.

The antenna to be used for this STA is already built. It is the same antenna 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 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,

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 The test transmissions that would begin on or about March 18th 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.

2013); 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).

Although the transmit frequencies Lockheed Martin seeks to use for the Astra-5B TT&C support operations are not included in Lockheed Martin's license for Call Sign E920702 and current Ku-band application for reinstatement in File No. SES-LIC-20081130-01443 (under Call Sign E7541), Lockheed Martin notes that the Commission has previously authorized Lockheed Martin STA requests for launch and early-operations TT&C support using transmit frequencies in the ranges sought in the instant STA request. *See, e.g.*, Request of Lockheed Martin Corp. for STA to Support LEOP TT&C Functions for Astra-3B, File No. SES-STA-20100511-00579 (STA to support launch and early operations TT&C functions for Astra-3B satellite using the 17304 MHz and 18095 MHz frequencies for Earth-to-space telecommand transmissions); Request of Lockheed Martin Corp. for STA to Support LEOP TT&C Functions for EchoStar-7, File No. SES-STA-20020208-00160 (STA to support launch and early operations TT&C functions for EchoStar-7 satellite using 17.3-17.8 GHz band frequencies for Earth-to-space telecommand transmissions) ("EchoStar-7 TT&C STA").³ The EchoStar-7 TT&C STA request included a radiation hazard study for this frequency range that Lockheed Martin hereby incorporates by reference. *See* EchoStar-7 TT&C STA at Attachment 3.

Lockheed Martin's proposed transmissions on both transmit frequencies 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, consistent with the non-harmful interference, non-protected status of the temporary operations proposed.

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to, or reception from, Astra-5B is to occur through the subject

³ Lockheed Martin also notes that the same authority requested here has been previously granted to Intelsat License LLC with respect to use of its Hagerstown, MD Earth station (Call Sign KA258) in connection with this same planned launch, which has experienced several delays. *See* FCC File Nos. SES-STA-20131105-00938 (granted Nov. 20, 2013) and SES-STA-20140212-00068 (granted March 5, 2014).

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 Astra-5B satellite are required in the public interest.⁴ 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.⁵ Astra-5B will be located in geostationary orbit at 31.5°E.L. and fitted with up to 40 Ku-band and 6 Ka-band transponders for the provision of telecommunications and data transmission services for the European market. 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 Astra-5B satellite is controlled while over North America; Lockheed Martin's earth station thus will serve a vital function.

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As outlined above, 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 Astra-5B satellite, for a term of 30 days commencing March 18, 2014.

⁴ Lockheed Martin notes that no waiver of the Commission's application rules with respect to non-U.S. satellites (*see* 47 C.F.R. §§ 25.114 and 25.137) is required in this instance, as the requested operations will not "serve the United States" market, but are instead intended only to assist in the launch and transfer orbit phases for deployment of a new satellite, which incidentally will also serve only points that lie outside the U.S. Under such circumstances, the Commission has not required any submission pursuant to the application rules governing non-U.S. satellites, nor otherwise required any waiver showing. *See, e.g.*, 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); *cf. EchoStar Satellite Operating Company*, 28 FCC Rcd 4229, 4233 (¶ 12) (IB 2013) ("ESOC will operate feeder links and TT&C earth stations within the United States, but we do not interpret these very limited technical operations, under STA, as constituting "DBS service" to the United States").

⁵ The spacecraft will be controlled throughout the launch and transfer orbit phases by EADS Astrium, which is the manager of the LEOP portion of the mission.