

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.

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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

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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