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 period of ranging and propulsion monitoring for the Hylas-1 satellite. Hylas-1 is a hybrid Ka-band/Ku-band satellite with European coverage.

Lockheed Martin is in a support role to provide these services during the relocation of Hylas-1 from its current orbital position to the 79 W.L. orbital. Accordingly, Lockheed Martin requests authority to begin communications on October 1, 2019, in preparation for the start of ranging and propulsion monitoring.

1. Requested STA Operations

The TT&C and ranging signals will be transmitted partly in the Ku-band. As to the instant request for STA, Lockheed Martin seeks herein authority to communicate with Hylas-1 as a point of communication on the Ku-band frequencies identified in the attached technical exhibit. In all other respects, operation of the earth station will be consistent with the parameters set forth under the existing permanent authority.

The nature of the Hylas-1 relocation requires extended support for the completion of the mission. Accordingly, Lockheed Martin is requesting that the duration of this STA be a total of thirty (30) days. Further, a request for extension of the instant STA request for an additional one hundred eighty (180) days is being filed concurrently to cover the entire period required to complete Lockheed Martin support to Avanti, the satellite operator.

The required frequency coordination for use of the designated transmit frequencies has been completed and is attached to the instant application as an exhibit.

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to Hylas-1 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 the limited operations it proposes in support of the the Hylas 1 relocation mission serve the public interest by ensuring control of a spacecraft transiting other space assets in the same orbital arc.

Lockheed Martin's Carpentersville earth station will be part of a network of control and ranging facilities that will be used solely to position the satellite as it progresses in transfer to its final location and to calibrate propulsion. 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 Hylas-1 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 Hylas-1 mission, for a term of 30 days, commencing October 1, 2019.

TECHNICAL DETAILS OF SPECIAL TEMPORARY AUTHORITY

Satellite Characteristics

Satellite: Hylas-1 spacecraft relocation

Orbital Location: In-orbit transit (support between 50 and 79 W.L.)

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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:
17302.048 MHz (H/LHCP)
17305.051 MHz (H/RHCP)

Telemetry Downlink Frequencies:
11701.008 MHz (V/LHCP)
11702.808 MHz (V/RHCP)

Antenna Gain: 63.5 dBi @ 14 GHz

Antenna Power: 19.1 dBW (into the flange)

Maximum EIRP: 83.0 dBW for all carriers

EIRP Density: 23.0 dBW/4kHz

Uplink Emission: 800KF8D

Downlink Emission: 400KM2D