

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 ninety (90) days to operate its Carpentersville, New Jersey fixed earth station (Call Sign E7541) to provide telemetry, tracking, and control ("TT&C") functions to the Hylas-1 satellite at the 80.8° W.L. orbital location. Hylas-1 is a hybrid Ka-band/Ku-band satellite with European coverage, registered through the United Kingdom.

Under separate STA grant, Lockheed Martin recently supported the relocation of the Hylas-1 to this orbital location.¹ On December 15, 2021, Lockheed Martin's Carpentersville antenna is expected to start providing primary TT&C support for the on-station Hylas-1 spacecraft. Accordingly, Lockheed Martin hereby respectfully requests that the instant application for authority start on the same date.

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 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 Lockheed Martin's existing permanent authority.

The nature of the Hylas-1 mission requires extended support. Accordingly, Lockheed Martin is requesting that the duration of this STA be a total of 90 days. 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)

¹ FCC File No. SES-STA-20211006-01691 (granted Oct. 20, 2021).

2. Grant of the Requested Authority Will Serve the Public Interest

Lockheed Martin believes that the limited operations it proposes in support of the Hylas-1 mission serve the public interest by ensuring control of an on-station spacecraft in the geosynchronous orbital arc.

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 in its final geostationary orbital position, which Lockheed Martin's Carpentersville earth station antenna is well suited to see. In this regard, Lockheed Martin's earth station 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 services in support of the Hylas-1 satellite, for a term of 90 days, commencing December 15, 2021.

TECHNICAL DETAILS OF SPECIAL TEMPORARY AUTHORITY

Satellite Characteristics

Satellite: Hylas-1

Orbital Location: 81 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