

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 deorbit operations for the NILESAT NIL102 satellite.

NIL102 is destined to commence deorbiting on May 15, 2018, from the 7° W.L. orbital location. Lockheed Martin's Carpentersville was selected as being optimal for providing secondary support for the deorbiting exercise.

Accordingly, Lockheed Martin requests to begin test transmissions on May 14, 2018 in preparation for the deorbit activity. Current projections are for the deorbit mission to be completed within 14 days. Nevertheless, Lockheed Martin respectfully requests that the duration of this STA be a total of thirty (30) days to cover any slippage in the date and duration of the mission.

1. Requested STA Operations

Lockheed Martin specifically seeks authority to transmit telecommand signals (Earth-to-space) on the 17302.5 MHz center frequency, and to receive telemetry signals from the satellite (space-to-Earth) on the center frequency 12499.0 MHz.

The proposed TT&C operations in support of the NIL102 deorbit will be on a strictly non-harmful interference, non-protected basis. 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 above-referenced FCC license. When no commands are being sent, a CW carrier that is within the emission of the licensed operation would be present. However, 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 and Schedule B information that were included with its most recent filings at the FCC.

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to NIL102 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 deorbit of the NIL102 satellite serve the public interest.

Lockheed Martin's Carpentersville earth station will be part of a global network of control and ranging facilities that will be used solely to position the satellite as it progresses from its on-station orbital 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 NIL102 satellite is controlled while 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 deorbit mission of the NIL102 satellite, for a term of 30 days, commencing May 14, 2018.

TECHNICAL DETAILS OF SPECIAL TEMPORARY AUTHORITY

Satellite Characteristics

Satellite: NILESAT NIL102
Orbital Location: 7.0° W.L.
Manufacturer: Astrium
Launch Vehicle: Ariane 44LP

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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:
17302.5 MHz (LHCP/RHCP)
Telemetry Downlink Frequencies:
12499.0 MHz (LHCP/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: 800KF2D
Downlink Emission: 300KG2D