

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 post-launch and early orbit phases ("LEOP") of operation for the Amazonas 5 satellite.

Amazonas 5 is destined for in-service operation at 61.0° W.L., and is currently scheduled for launch on August 31, 2017, aboard a Proton M rocket from the Baikonur Cosmodrome (LC-31).

Accordingly, Lockheed Martin requests to begin test transmissions on August 29, 2017 in preparation for the launch.¹ Further, Lockheed Martin is requesting that the duration of this STA be a total of thirty (30) days 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 fourteen (14) days after the Amazonas 5 satellite is launched

1. Requested STA Operations

Lockheed Martin specifically seeks authority to transmit telecommand signals on the 13999.5 and 14499.5 MHz center frequencies for in transit telecommand communications (Earth-to-space), and to receive telemetry signals from the satellite (space-to-Earth) at the center frequencies 11701.0 and 12202.25 MHz.

The proposed TT&C operations in support of the Amazonas 5 launch 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.

¹ The proposed test transmissions 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.

In order to demonstrate compliance with FCC Report and Order 96-377 regarding operations in the extended Ku-band, Lockheed Martin submits herewith an analysis that states that the proposed operations pose no risk of interference either to U.S. Navy shipboard radar operations or to NASA TDRSS links.

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to Amazonas 5 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 launch of the Amazonas 5 satellite serve the public interest. Lockheed Martin understands that the Amazonas 5 satellite has been licensed by the Brazilian administration to Hispamar Satélites S.A. (ITU Designation B-SAT-Q) to provide broadband, television, corporate network and other telecommunications services over Mexico, Central America and South America.

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 transfer orbit to its final location and to calibrate electric 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 Amazonas 5 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.

* * * * *

Lockheed Martin requests authority to operate its Carpentersville, NJ earth station antenna to provide critical TT&C and ranging services during the LEOP mission of the Amazonas 5 satellite, for a term of 30 days, commencing August 29, 2017.

TECHNICAL DETAILS OF SPECIAL TEMPORARY AUTHORITY

Satellite Characteristics

Satellite: Amazonas 5
Orbital Location: 61.0° W.L.
Manufacturer: SSL
Launch Vehicle: Proton M

* * *

Earth Station Characteristics

Antenna: 14.2-m TIW Systems
Antenna Location: 40°38' 39.1" N / 075° 11' 27.8" W
Telecommand Uplink Frequencies:
13999.5 MHz (RHCP)
14499.5 MHz (RHCP)
Telemetry Downlink Frequencies:
12202.25 MHz (RHCP)
11701.0 MHz (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: 1M00F2D
Downlink Emission: 1M50G8D