

## 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 launch and early orbit phase ("LEOP") in support of ranging and propulsion monitoring for the Telstar 18 VANTAGE satellite. Telstar 18-V is destined for in-service operation at 138.0° E.L., and is currently scheduled for launch in mid-August 2018, aboard a Falcon 9 heavy rocket, from Cape Canaveral, Florida.

Accordingly, Lockheed Martin requests authority to begin communications on August 18, 2018, in preparation for the start of the LEOP mission.

### *Requested STA Operations.*

The TT&C and ranging signals will be transmitted in the 6.0 GHz C-band frequencies using the earth station facility for which Lockheed Martin already has authority under Call Sign E7541. However, to ensure no risk of interference with adjacent microwave operators, Lockheed Martin has coordinated use of the 6415-6431 and 6639-6657 MHz bands to transmit to the satellite. In all other respects, operation of the earth station will be consistent with the parameters set forth under the existing permanent authority.

Lockheed Martin is requesting that the duration of this STA be a total of thirty (30) days. Lockheed Martin also designates Michael Usarzewicz to be the contact person that will be available whenever transmission to Telstar 18-V 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)

### *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 Telstar 18-V satellite serve the public interest. Lockheed Martin understands that the Telstar 18-V satellite will provide high-throughput communications services in the Asia-Pacific region. 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. 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 Telstar 18-V 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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Based on the foregoing 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 Telstar 18 VANTAGE satellite, for a term of 30 days, commencing August 18, 2018.

In support of this request, Lockheed Martin provides the following technical details:

*Satellite Characteristics*

Satellite:  
Telstar 18 VANTAGE

Orbital Location:  
138 E.L.

Manufacturer:  
Space Systems Loral

Transponders:  
C-band / Ku-band

*Earth Station Characteristics*

Antenna:  
14.2-m TIW Systems

Antenna Location: 40°38' 39.1" N / 075° 11' 27.8" W

Telecommand Uplink Frequencies:  
6415-6431 MHz (RHCP)  
6639-6657 MHz (RHCP)

Telemetry Downlink Frequencies:  
3623 MHz (LHCP)  
3625 MHz (LHCP)  
4199 MHz (LHCP)

Antenna Gain: 63.9 dBi @ 6 GHz

Antenna Power: 20.1 dBW (into the flange)

Maximum EIRP: 84.9 dBW for all carriers

EIRP Density: 23.0 dBW/4kHz

Uplink Emission:  
16K0F3D – 27K7G3N

Downlink Emission:  
320KG3D