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 extension of Special Temporary Authority ("STA") for a period of sixty (60) 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 EchoStar 23 satellite.

EchoStar 23 is a Space Systems Loral Model SSL-1300 Ku-band Broadcasting-Satellite Service ("BSS") satellite authorized under Brazilian authority for operations at the 45º W.L. orbital location by EchoStar 45, an EchoStar affiliate. The satellite will provide direct-to-home ("DTH") television service to Brazil from its assigned orbital location.

The satellite is scheduled for an upcoming launch aboard a SpaceX Falcon 9 launch vehicle from Cape Canaveral, Florida, as early as October 25, 2016.[1] Lockheed Martin previously submitted a request for STA to coincide with that possible launch date.[2] However, as outlined in that same request, recent events at the Cape Canaveral launch facility have resulted in unforeseen delays for all planned launches in the immediate future. Accordingly, because of the uncertainty as to when the launch will be assigned a date, and out of an abundance of caution to ensure that authority is in place, Lockheed Martin respectfully requests STA extension for up to sixty (60) days, for the period of November 25, 2016 to January 24, 2017. Despite this window, as stated in in its initial request, Lockheed Martin expects that all Carpentersville operations in support of the launch will be completed within ten (10) days after the EchoStar 23 satellite is launched.

1. Requested STA Operations

Lockheed Martin specifically seeks authority to transmit telecommand signals at the center frequencies 17305.0 and 17791.0 MHz for in transit telecommand communications (Earth-to-space), and to receive telemetry signals from the satellite on 12207.0 and 12208.0 MHz frequencies.

The proposed TT&C operations in support of the EchoStar 23 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

[1] As the Bureau is aware, recent events at the Cape Canaveral launch facility have resulted in unforeseen delays. Because of the uncertainty related to the actual launch date, Lockheed Martin will be submitting a concurrent STA extension request for a period of up to sixty (60) days. Nonetheless, in the event that the launch is permitted to take place on October 25, Lockheed Martin respectfully requests Commission consideration of its request for authority to commence from that date onward.

[2] FCC File No. SES-STA-20161007-00831.

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. In addition, Lockheed Martin is submitting herewith a Frequency Coordination Report prepared by Comsearch.

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to, or reception from, EchoStar 23 is to occur through the subject earth station. Mr. Usarzewicz can be reached at the following cell phone number: (609) 865-2658 and/or station number: (908) 859-4050.

2. <u>Grant of the Requested Authority Will Serve the Public Interest</u>

Lockheed Martin believes that the limited operations it proposes in support of the launch of the EchoStar 23 satellite serve the public interest. Lockheed Martin understands that the EchoStar 23 satellite has been licensed by the Brazilian Administration to provide DTH television service to Brazil. Lockheed Martin's Carpentersville earth station will be part of a global network of control 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 EchoStar 23 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 services during the launch and early operations phase of the EchoStar 23 satellite, for a term of 60 days, through January 24, 2017.

Operating Parameters for Proposed Carpentersville, NJ Ku-Band TT&C LEOP STA

SITE NAME (or identifier):	**Carpentersville, NJ – Call Sign E7541**

Antenna location

Longitude (deg, min, sec- *NAD 83*)	75 ° 11 ' 27.8 " W
Latitude (deg, min, sec- *NAD 83*)	40 ° 38 ' 39.1 " N
Antenna Height:	19.2 m
Ground Elevation (AMSL):	85.7 m

Antenna Characteristics (size & gain)

Size	14.2
TX Gain	57.3 dBi @ 6.0 GHz
RX Gain	53.9 dBi @ 4.0 GHz
Antenna Model	14.2 KFPA
Antenna Manufacturer	TIW (GD SATCOM)

Maximum HPA Power 650W