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 one hundred eighty (180) days to operate its Carpentersville, New Jersey fixed earth station (Call Sign E7541) to provide telemetry, tracking, and control ("TT&C") functions during the Electric Orbit Raising ("EOR") period of operation, ranging, and electric propulsion monitoring for the Arabsat-6A ("AS-6A") satellite, which has been manufactured by Lockheed Martin.

AS-6A is destined for in-service operation at 30.5° E.L., and is currently scheduled for launch in early March 2019, aboard a Falcon Heavy rocket, from Cape Canaveral, Florida.

Lockheed Martin requested authority to begin communications on March 5, 2019, in preparation for the start of EOR.[1] The all-electric propulsion system of AS-6A requires extended support for the completion of the mission. Accordingly, Lockheed Martin is requesting herein extension of its initial request for an additional one hundred eighty (180) days, from April 5, 2019, to cover the entire period required to complete EOR and the in-orbit testing being conducted by the launch provider.

1. Requested STA Operations

The EOR TT&C and ranging signals will be transmitted in the Ku-band for which Lockheed Martin already has authority under Call Sign E7541. As to the instant request for STA, Lockheed Martin seeks herein authority to communicate with AS-6A as a point of communication on two extended Ku-band frequencies, which fall outside of the currently authorized Ku-band transmit frequencies for the earth station. In all other respects, operation of the earth station will be consistent with the parameters set forth under the existing permanent authority.

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 AS-6A 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] IBFS Submission ID IB2019000118.

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 AS-6A satellite serve the public interest. Lockheed Martin understands that the AS-6A satellite will provide Ku-band and Ka-band communications coverage over the Middle East and North Africa regions, as well as a footprint in South Africa.

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 AS-6A 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 and ranging services during the EOR mission of the AS-6A satellite, for a term of 180 days, from April 5, 2019.

TECHNICAL DETAILS OF SPECIAL TEMPORARY AUTHORITY

Satellite Characteristics

Satellite: Arabsat-6A Electric Orbit Raising

Orbital Location: 30.5º E.L.

Manufacturer: Lockheed Martin Corporation

Launch Vehicle: Falcon Heavy

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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:
13993.0 MHz (LHCP/RHCP)
13995.0 MHz (LHCP/RHCP)

Telemetry Downlink Frequencies:
11198.0 MHz (LHCP/RHCP)
11199.0 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: 1M50F2D
Downlink Emission: 1M00G8D