

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)
)
SES Americom, Inc.) SES-STA-_____-_____
) Call sign E170139
Request for Special Temporary Authority to)
Conduct In-Orbit Testing with and Provide TT&C)
for SES-15 at 137° W.L.)

REQUEST FOR SPECIAL TEMPORARY AUTHORITY

SES Americom, Inc. (“SES”) respectfully requests Special Temporary Authority (“STA”) to use its E170139 earth station located in its South Mountain, California teleport¹ to communicate with SES-15 at 137° W.L. in order to (1) perform in-orbit testing (“IOT”) of the satellite’s Ku-band payload, (2) provide telemetry, tracking and command (TT&C) services for the satellite while it is located at 137° W.L. and (3) provide TT&C during the satellite’s drift to its final orbital location, 129.15° W.L. Authority is sought for a period of up to 30 days, commencing on or around November 19, 2017. SES requests authority for the earth station to communicate with the Gibraltar-licensed SES-15 satellite to test the Ku-band payload and provide TT&C services.

SES Satellites (Gibraltar) Limited received market access to provide service into the United States from 129.15° W.L. using the Ku- and Ka-bands as well as to operate the

¹ SES Americom, Inc., Call Sign E170139, File No. SES-LIC-20170726-00806, granted October 4, 2017.

WAAS payload in the L- and conventional and extended C-bands.² SES-15 was launched on May 18, 2017 and is currently en route to its test orbital location at 137° W.L. SES-15 will be located at 137° W.L. +/-0.1 degrees during IOT. The proposed stationkeeping volume will not overlap with any other satellite. SES seeks earth station STA to perform testing of the SES-15 Ku-band payload using the following frequency bands:

14.0-14.5 GHz	Uplink
11.7-12.2 GHz	Downlink
11.45-11.7 GHz	Downlink
11.2-11.45 GHz	Downlink
10.95-11.2 GHz	Downlink
10.7-10.95 GHz	Downlink

SES also seeks earth station STA to provide TT&C while SES-15 is located at 137° W.L. and as it drifts to 129.15° W.L. using the following frequencies:

10700.5 MHz and 12199.5 MHz	Telemetry
13999 MHz, ³ 14001 MHz and 14499 MHz	Command

² SES Satellites (Gibraltar) Limited, (Call Sign S2951), File No. SAT-MPL-20160718-00063, granted Dec. 14, 2016; modifying File No. SAT-PPL-20160126-00007, granted July 12, 2016 (“SES-15 Grant”).

³ SES Satellites (Gibraltar) Limited was granted a waiver of Section 25.202(g) to conduct command operations using the 13999 MHz frequency. *See id.*, Attachment to Grant at 3, Condition 6.

As discussed below, performing IOT while SES-15 is at 137° W.L. rather than at 129.15° W.L. will permit testing to occur without disruption to existing customers at 129.15° W.L. and will not adversely affect the operation of any adjacent satellites.

Grant of STA Will Serve the Public Interest. Grant of SES's request to test the Ku-band payload on SES-15 at 137° W.L. and provide TT&C for the satellite during testing and drift is in the public interest. By testing SES-15 at this location, SES will minimize the risk of interference to other satellites operating at the nominal 129° W.L. orbital location. Testing will allow SES to ensure that the satellite's communications payload is fully operational at the time it arrives at its final orbital location, thereby avoiding any interruption in service that otherwise might be associated with spacecraft testing. Additionally, STA to provide TT&C will ensure safe satellite operations during the testing and drift operations.

No Harmful Interference to Other Spacecraft. Testing the SES-15 Ku-band payload at 137° W.L. will not cause harmful interference to the operations of any other spacecraft due to orbital angular separation, frequency diversity and/or geographically diverse beam coverage. Except for SES's AMC-4 spacecraft, there are no satellites within +/- 6 degrees of 137° W.L. operating in the Ku-band. SES will manage the operations of its satellites to prevent interference.

No Harmful Interference to Terrestrial Services. Transmissions associated with IOT of SES-15 will not cause harmful interference to any terrestrial services in the extended Ku-band. The satellite will operate within the power flux density limits set out in Section 25.208(b) of the Commission's rules, and the Commission has already granted a waiver authorizing the satellite to provide domestic service in the extended Ku-bands based on its operational limits.⁴

⁴ *Id.* at 2, Condition 3.

Additionally, the earth station will not exceed the maximum output EIRP density specified in its license, except in the case of certain tests involving high-powered continuous wave (“CW”) for a short duration of time lasting from 30 minutes to several hours. A detailed description of the proposed IOT activities and TT&C operations is provided in Attachment 1. SES will conduct all IOT and TT&C operations on a non-harmful interference basis and will cease transmissions promptly in the event SES receives a complaint of harmful interference regarding its operations.

Waiver Requests. SES seeks a waiver of footnote NG52 in order to conduct domestic operations in the extended Ku-band downlink bands and SES seeks any necessary waiver of Section 25.210(j) of the Commission’s rules in order to permit communications with SES-15 at 137° W.L. with an east-west stationkeeping tolerance of +/- 0.1 degree during the IOT operations. Grant of these waivers is consistent with Commission policy:

The Commission may waive a rule for good cause shown. Waiver is appropriate if special circumstances warrant a deviation from the general rule and such deviation would better serve the public interest than would strict adherence to the general rule. Generally, the Commission may grant a waiver of its rules in a particular case if the relief requested would not undermine the policy objective of the rule in question and would otherwise serve the public interest.⁵

Section 2.106 Footnote NG52. SES seeks any necessary waiver of footnote NG52 to permit the reception of U.S. domestic services in the 10.7-11.7 GHz band on an unprotected, non-interference basis. The Commission has granted a waiver for SES-15 to provide domestic service in these bands.⁶ Footnote NG52 was intended to preserve access to the 10.7-11.7 GHz spectrum for terrestrial fixed service (“FS”) stations by limiting FSS use of the

⁵ *PanAmSat Licensee Corp.*, 17 FCC Rcd 10483, 10492 (Sat. Div. 2002) (footnotes omitted).

⁶ SES-15 Grant, Attachment at 2, Condition 3.

band to international operations only.⁷ SES-15 will meet the power flux density limits on the ground to protect FS operations, and the number of antennas that will be used to communicate in these bands will be limited, thereby ensuring protection of FS services. Moreover, because SES seeks authority to receive in this spectrum on an unprotected basis, FS use of the band will not be constrained. Therefore, grant of the requested waiver will not undermine the purpose of the rule.

Section 25.210(j): Section 25.210(j) specifies that geostationary space stations “must be maintained within 0.05° of their assigned orbital location in the east/west direction, unless specifically authorized by the Commission to operate with a different longitudinal tolerance.”⁸ Here, SES is seeking authority to communicate with SES-15 while the satellite is maintained with a +/- 0.1 degree stationkeeping tolerance during the limited period of IOT operations. The relaxed stationkeeping tolerance will minimize interruptions to the payload testing operations due to stationkeeping maneuvers, which would delay the satellite’s on-station start of operations. It will also conserve fuel for future satellite operations. Furthermore, the SES-15 stationkeeping volume will not overlap with that of other satellites near 137° W.L. and therefore there will be no adverse effect on the operations of other spacecraft.

Protective Conditions. SES will coordinate its test and TT&C operations with all potentially affected operating satellite networks and will operate only the Ku-band TT&C payload of the SES-15 spacecraft during satellite drift. All testing will be conducted on an unprotected, non-harmful interference basis, and SES operations will cease immediately upon notification of harmful interference.⁹

⁷ See 47 C.F.R § 2.106, Footnote NG52. This policy was previously codified in footnote NG104.

⁸ 47 C.F.R. § 25.210(j).

⁹ The 24/7 point of contact for SES during IOT and drift is Payload Management Operations Center Level 1, +1 410 970 7570; +1 800 772 2363; pmocl1@ses.com.

SES hereby certifies that no party to this application is subject to a denial of benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. § 862.

For the foregoing reasons, SES respectfully requests special temporary authority to operate its E170139 earth station to test the Ku-band payload on SES-15 at 137° W.L. and to provide TT&C during IOT and drift for a period of up to 30 days commencing on or around November 19, 2017. Grant of the requested authority will permit testing of the spacecraft without affecting services to customers and will permit a seamless transition of services.

Respectfully submitted,
SES Americom, Inc.

By: /s/ Petra A. Vorwig

Of Counsel

Karis A. Hastings
SatCom Law LLC
1317 F Street, N.W., Suite 400
Washington, D.C. 20004
Tel: (202) 599-0975

Petra A. Vorwig
Senior Legal & Regulatory Counsel
SES Americom, Inc.
1129 20th Street N.W., Suite 1000
Washington, D.C. 20036

Dated: October 26, 2017

Attachment 1

Call Sign: E170139

Site Details

Contact Information:

David Coyle
805-386-2712

Address:

5990 Solano Verde Dr.
Somis, California 93066

Geographic Coordinates:

Latitude: 34 °19 '32.3 "N

Longitude: 118 °59 '43.2 "W

Site Elevation:

313.0 meters

Antenna Details

Antenna ID: SM-K06
Manufacture/Model: GD Satcom/9.0M
Antenna Size: 9.0 meters
Antenna Gain Transmit: 60.1 dBi at 14.125 GHz
Antenna Gain Receive: 58.5 dBi at 11.7250 GHz
Height Above Ground Level: 9.7 meters
Height Above Sea Level: 322.7 meters
Total Input Power at the Flange: 2000.0 watts
Total EIRP for the test Carrier: 93.1 dBW

TT&C Operational Details

Frequency (MHz)	Transmit /Receive	Polarization	Emission Designator	Max EIRP per Carrier (dBW)	Max EIRP Density per Carrier (dBw/4kHz)
10700.5	R	Horizontal and Vertical Linear	500KF9D	0.0	0.0
12199.5	R	Horizontal and Vertical Linear	500KF9D	0.0	0.0
13999	T	Horizontal and Vertical Linear	1M00F9D	76.1	52.1
14001	T	Horizontal and Vertical Linear	1M00F9D	76.1	52.1
14499	T	Horizontal and Vertical Linear	1M00F9D	76.1	52.1

IOT Operational Details

Frequency (MHz)	Transmit /Receive	Polarization	Emission Designator	Max EIRP per Carrier (dBW)	Max EIRP Density per Carrier (dBw/4kHz)
10700-10950	R	Horizontal and Vertical Linear	N0N	0.0	0.0
10950-11200	R	Horizontal and Vertical Linear	N0N	0.0	0.0
11200-11450	R	Horizontal and Vertical Linear	N0N	0.0	0.0
11450-11700	R	Horizontal and Vertical Linear	N0N	0.0	0.0
11700-12200	R	Horizontal and Vertical Linear	N0N	0.0	0.0
14000-14500	T	Horizontal and Vertical Linear	N0N	81.5	81.5