

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

In the Matter of)	
)	
SES AMERICOM, INC.)	File No. SES-STA-_____
)	Call Sign E160022
Request for Special Temporary Authority to)	
Perform Testing with SES-11 at 142.5° W.L.)	

REQUEST OF SES AMERICOM, INC.

SES Americom, Inc. (“SES”) respectfully requests special temporary authority (“STA”) for its E160022 earth station located at its South Mountain, California teleport to communicate with the SES-11 spacecraft at 142.5° W.L. in order to perform in-orbit testing (“IOT”) of the satellite. Authority is sought for a period of up to 30 days, commencing eleven days following launch of SES-11, which could occur as early as the end of September 2017. Specifically, SES requests authority for the earth station to communicate with the SES-11 Ka-band payload in order to test the transmission capability of the payload.¹

SES-11 is a dual-licensed spacecraft that will operate at the nominal 105° W.L. orbital location. The Commission has issued a license for the satellite’s Ku-band payload, which will replace the Ku-band capacity of AMC-15, and has granted U.S. market access for the

¹ The Commission has granted a space station STA to permit SES-11, which also has a U.S.-licensed Ku-band payload, to be positioned at 142.5° W.L. during IOT. SES Americom, Inc., (Call Sign S2964), File No. SAT-STA-20170526-00080, granted July 7, 2017 (“SES-11 Space Station STA”). SES Americom, Inc. also received authority to operate a C-band antenna (Call Sign KB27) to test the Gibraltar licensed C-band payload. *See* SES Americom, Inc., File No. SES-STA-20170821-00935, granted Sept. 13, 2017.

satellite’s Gibraltar-licensed C-band payload, which will replace the AMC-18 satellite.² SES has not requested permanent authority to access the U.S. market using the Ka-band payload, and does not seek such authority now. SES only requests limited authority to test the operations of the payload.

Following launch of SES-11, SES proposes to position the satellite at 142.5° W.L. for IOT. SES-11 will be located at 142.5° W.L. +/-0.1 degrees during IOT.³ The proposed stationkeeping volume will not overlap with any other satellite. SES seeks earth station STA to perform testing of the SES-11 Ka-band payload.

As discussed below, performing IOT at 142.5° W.L. rather than at 105° W.L. will permit testing to occur without disruption to existing customers at 105° W.L. and will not adversely affect the operation of any adjacent satellites. SES seeks STA to support tests in the following frequencies. A full summary of the proposed operations is provided in Attachment 1.

28720 MHz	Uplink
29375 MHz	Uplink
29750 MHz	Uplink
18920 MHz	Downlink
18425 MHz	Downlink
19950 MHz	Downlink

Grant of STA Will Serve the Public Interest. Grant of SES’s request to test SES-11 at 142.5° W.L. is in the public interest. By testing SES-11 at this location, SES will minimize

² See SES Americom, Inc., File No. SAT-LOA-20160512-00047 and SES Satellites (Gibraltar) Ltd, File No. SAT-PPL-20160512-0048 (together, the “SES-11 Applications”). These applications were combined under a single call sign, S2964, and granted on December 7, 2016.

³ The earth station license designated under call sign E160022 is coordinated to operate with satellites within the orbital arc between 97° W.L. and 135° W.L. SES-11 IOT operations will occur at 142.5° W.L., and SES seeks temporary authority to operate the earth station with that orbital location.

the risk of interference to its other satellites operating at the nominal 105° W.L. orbital location. Testing will allow SES to ensure that the satellite's Ka-band communications payload is fully operational at the same time its Ku-band and C-band payloads are tested.

No Harmful Interference to Other Spacecraft. Positioning and testing SES-11 at 142.5° 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. SES has coordinated the proposed IOT operations with other Ka-band satellites positioned near 142.5° W.L., including satellites operated by the Department of Defense at 141° W.L. and 144° W.L. in the 18-20.2 GHz band.

No Harmful Interference to Terrestrial Services. Transmissions associated with IOT of SES-11 will not cause harmful interference to any co-primary terrestrial services in the Ka-band. Currently, there are no terrestrial services authorized in the Ka-band frequencies identified for testing in Attachment 1. The earth station will not exceed the maximum output EIRP density specified in Attachment 1, 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. SES will conduct all IOT 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 Request. SES seeks a limited waiver of Section 25.210(j) of the Commission's rules in order to operate SES-11 at 142.5° W.L. with an east-west stationkeeping tolerance of +/- 0.1 degree during the IOT operations. Grant of this waiver 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.⁴

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.”⁵ Here, SES is seeking authority to operate SES-11 with a relaxed stationkeeping tolerance of +/- 0.1 degree during the limited period of IOT operations. The Commission has already granted a similar waiver request when it authorized SES to operate the Ku-band payload of SES-11 at 142.5° W.L. with +/-0.1 degree stationkeeping.⁶ SES requests a waiver because 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 proposed operations will not result in any overlap with other satellites near 142.5° W.L. and therefore will not adversely affect the operations of other spacecraft.

Protective Conditions. SES seeks authority for E160022 to communicate with SES-11 in the Ka-band frequencies identified in Attachment 1 in order to test SES-11 at 142.5° W.L. with +/-0.1 degree stationkeeping tolerance. SES will coordinate its drift and test operations with all potentially affected operating satellite networks and will operate only the Ku-band TT&C payload of the SES-11 spacecraft during satellite drift. All testing will be conducted

⁴ *PanAmSat Licensee Corp.*, 17 FCC Rcd 10483, 10492 (Sat. Div. 2002) (footnotes omitted).

⁵ 47 C.F.R. § 25.210(j).

⁶ SES-11 Space Station STA, condition 6, at 2.

on an unprotected, non-harmful interference basis, and SES operations will cease immediately upon notification of harmful interference.⁷

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 E160022 earth station to test the Ka-band payload on SES-11 at 142.5° W.L. for a period of up to 30 days, commencing eleven days following the launch of SES-11. Grant of the requested authority will permit testing of the spacecraft without affecting services to customers. As noted above, SES is preparing to launch SES-11 in September 2017 and requests action on this application to accommodate that schedule.

Respectfully submitted,

SES AMERICOM, INC.

By: /s/ Petra A. Vorwig

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⁷ The 24/7 point of contact for SES during IOT and drift is Dave Coyle, Manager, South Mountain Earth Station, (805) 386-2710, dave.coyle@ses.com.

Attachment 1

Call Sign: 160022

Site Location:
5920 Solano Verde Dr
Somis, CA 93066

Coordinates: 34° 19' 31.9" N
118° 59' 41.4" W

Satellite: SES-11 operating at 142.5° W.L. for in-orbit testing

Antenna Facilities

Diameter: 9.2 meters
Manufacturer: SES
Model Number: 9.2 Meter
Site Elevation: 312.12 meters
Max Antenna Height: 11.05 AGL/318.05 AMSL
Receive Gain: 62.2 dBi @18 GHz
Transmit Gain: 69.1 dBi @ 30 GHz
Max Total Input Power at Antenna Flange: 371.5 watts
Max Aggregate EIRP for All Carriers: 91.19 dBW

Operational Details

Frequency (MHz)	Transmit/Receive	Polarization	Emissions Designator	Max EIRP per Carrier (dBW)	Max EIRP Density per Carrier (dBW/4kHz)
28720	T	Left and right hand circular	N0N	40.5	40.5
29375	T	Left and right hand circular	N0N	40.5	40.5
29750	T	Left and right hand circular	N0N	40.5	40.5
18920	R	Left and right hand circular	N0N		
18425	R	Left and right hand circular	N0N		

19950	R	Left and right hand circular	NON		
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