

APPLICATION FOR SPECIAL TEMPORARY AUTHORITY

Call Sign E110104

** Expedited Processing Requested **

SES Americom, Inc. (“SES Americom”) respectfully requests expedited grant of Special Temporary Authority (“STA”) to test earth station E110104, for a period of 30 days beginning on or about March 5, 2012, with the recently launched SES-4 satellite (call sign S2828)¹ while the satellite is at its in-orbit testing (“IOT”) location at 26.0° W.L. The purpose of this request is to enable the TT&C capabilities of the earth station to be tested with SES-4.

In particular, SES Americom is seeking temporary authority to operate earth station E110104 on the following subset of TT&C frequencies of SES-4:

Table 1. SES-4 TT&C Frequencies on Which E110104 Will Be Tested

Carrier	Frequency, MHz
Telecommand 1	14496.0
Telecommand 2	14499.0
Telemetry 1	11451.0
Telemetry 4	12502.0

The SES-4 satellite was successfully launched on February 14, 2012. The satellite is currently at the 26.0° W.L. orbital location, where it is undergoing IOT by the satellite manufacturer, Space Systems/Loral (“SS/L”). An affiliate of SES Americom, New Skies Satellites B.V., will take in-orbit delivery of the satellite once IOT has been completed and the satellite has been moved to 22° W.L. SES-4 is expected to arrive at its operating location, 22° W.L., on or about April 16, 2012.

SES has a pending license application to use earth station E110104 to (among other things) perform backup TT&C with SES-4 using the 11451.0 GHz, 14496.0 and 14499.0 GHz TT&C frequencies once the satellite arrives at its intended orbital location of 22° W.L..² Full technical details regarding the earth station are included in the pending license application, and are hereby incorporated by reference. The operating parameters of the antenna on the 11451.0 GHz, 14496.0 and 14499.0 GHz frequencies during the proposed test will be consistent with those described in the pending application, except that SES-4 will be at 26.0° W.L. instead of 22° W.L. To the extent necessary, SES requests a waiver of the international service restriction³ to receive telemetry on the 11451.0 GHz frequency from SES-4 at 26° W.L. during the proposed test. SES requested the same waiver in its pending license application, and incorporates by reference the grounds for waiver mentioned therein.⁴ Terrestrial coordination of the 11.45-11.7 GHz band has been completed for E110104 for any satellite in the 10° W.L. to 140° W.L. satellite arc.⁵

SES is also seeking special temporary authority to receive telemetry using the 12502.0 MHz frequency during the proposed test. This frequency is within the 12.5-12.7 GHz band that is allocated to the fixed-satellite service (“FSS”) (space-to-Earth) in ITU Regions 1 and 3. In the United States, this band is allocated to the fixed service (“FS”) and the broadcasting-satellite service (“BSS”) (space-to-Earth) (also

¹ See File No. SAT-PPL-20110620-00112 (“SES-4 Petition”), on public notice July 8, 2011. No comments were received on this application.

² See File No. SES-LIC-20110715-00830 (“E110104 Application”), on public notice Aug. 10, 2011. No comments were received on this application.

³ 47 C.F.R. §§ 2.106 NG104, 25.202(a) Note 2.

⁴ See Legal Narrative at 3-4, in E110104 Application.

⁵ See Coordination Report, in E110104 Application.

known as “Direct Broadcast Satellite” or “DBS” service).⁶ Accordingly, SES respectfully requests a limited waiver of the U.S. Table of Frequency Allocations to enable the proposed testing to occur.⁷ SES recognizes that such non-conforming use would be on a non-protected and non-harmful interference basis. There is no risk of harmful interference in granting such a waiver because the power flux density (“pfd”) at the earth’s surface generated by the SES-4 telemetry carrier will not exceed the pfd limits prescribed by the ITU Radio Regulations for the protection of Region 2 BSS receivers from Region 1 FSS satellites.⁸

Table 2. Determination of allowed EIRP levels pursuant to Appendix 30

Nearby Plan assignments	US	Brazil	Bermuda	Guyana	Jamaica	Grenada
Wanted orbit location, degrees W.L.	61.5	45.0	31.0	33.8	33.8	42.2
Interfering orbit location, degrees W.L.	26.0	26.0	26.0	26.0	26.0	26.0
Orbital separation, incl. station-keeping tolerance, degrees	35.4	18.9	4.9	7.7	7.7	16.1
Appendix 30, An 4 allowed pfd, dBW/m ² /27 MHz (R1 FSS into R2 BSS)	-103.6	-103.6	-112.6	-107.0	-107.0	-103.6
Allowed pfd, dBW/m ² /300 kHz	-123.1	-123.1	-132.2	-126.6	-126.6	-123.1
Allowed EIRP, dBW/300 kHz	38.9	38.9	29.8	35.4	35.4	38.9
SES-4 Telemetry 4 EIRP, dBW/300 kHz	8.0	8.0	8.0	8.0	8.0	8.0

As shown in the above Table 2, SES-4’s maximum EIRP level for its telemetry carrier (8 dBW in 300 kHz bandwidth) is well below the lowest allowed EIRP level under Appendix 30 of the Radio Regulations (29.8 dBW in 300 kHz). Therefore, there will be no harmful interference caused to Region 2 BSS by SES-4’s telemetry operations.

⁶ See 47 C.F.R. § 2.106.

⁷ SES is also aware that there is a “freeze” on new DBS applications in the 12.2-12.7 GHz downlink band, as announced in Public Notice, FCC 05-213, released Dec. 21, 2005. In this application, SES is not requesting authority to provide DBS service in the United States in this band, but is seeking limited authority to receive telemetry from its FSS satellite at its IOT location of 26° W.L. on a non-conforming use basis. As a result, the DBS freeze does not apply. Out of an abundance of caution, however, and to the extent necessary, SES is requesting a waiver of the DBS freeze for the limited purpose of allowing telemetry to be downlinked to a U.S. earth station from SES-4 on a non-protected, non-harmful interference basis. Grant of such a waiver would not undermine the purpose of the freeze, which is to prevent new applications for DBS service to the United States from being filed until new rules have been promulgated for the processing of such applications. As noted above, SES is not seeking authority to provide DBS service in the United States.

⁸ See Annex 4 to Appendix 30 of the ITU Radio Regulations (power-flux density limits for Region 1 FSS to protect Region 2 BSS in the 12.5-12.7 GHz band). It should be noted that the power-flux density limits plateau to -103.6 dBW/m²/27 MHz after an orbital separate of 10.57 degrees. Therefore, it is not necessary to individually analyze the Region 2 Plan assignments or filed Plan modifications that are west of 33° W.L. The above Table includes all Plan assignments east of 45° W.L., and also the easternmost U.S. BSS Plan assignment for reference (61.5° W.L.). There are no proposed modifications to the Plan east of 33° W.L.

Similarly, there will be no harmful interference to any co-primary FS in the 12.2-12.7 GHz band. In the U.S., the relevant fixed service is the multichannel video and data distribution service (“MVDDS”). There are no criteria in the Commission’s rules for the protection of MVDDS from GSO FSS or BSS satellites operating in the 12.5 GHz band. However, the Commission has prescribed low-angle power flux density limits for NGSO FSS satellites operating in this band.⁹ In addition, Section 4 of Annex 1 of Appendix 30 to the ITU Radio Regulations contains pfd limits for Region 2 BSS systems in 12.2-12.7 GHz for the protection of terrestrial systems in Region 2. There are also power flux density limits in the 12.5 GHz band in No. 21.16 of the ITU Radio Regulations for the protection of co-primary FS in Regions 1 and 3. Table 10-80 of the Technical Appendix for SES-4 demonstrates that, in the worst case, SES-4’s telemetry transmissions would generate power flux densities on the Earth’s surface that are well below any of these limits.¹⁰ As a result, protection of any co-primary FS (such as MVDDS) is assured.

Grant of the instant request and associated waivers will serve the public interest by enabling the TT&C capabilities of the earth station to be tested with SES-4 before the satellite arrives on station at 22° W.L. No harmful interference will be caused by the proposed testing. SS/L has informed SES Americom that the proposed testing has been coordinated with adjacent satellite operators. In addition, terrestrial coordination of the 11.45-11.7 GHz band has been completed for E110104 for a satellite arc that includes 26° W.L.

⁹ See 47 C.F.R. § 25.208(k).

¹⁰ See *Technical Appendix* at 48, in SES-4 Petition.