SatCom Law LLC
1317 F St. NW, Suite 400
Washington, D.C. 20004
T 202.599.0975
www.satcomlaw.com

July 21, 2015

FILED ELECTRONICALLY

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Written *Ex Parte* Presentation, Comprehensive Review of the Licensing and Operating Rules for Satellite Services, IB Docket No. 12-267

Dear Ms. Dortch:

Pursuant to 47 C.F.R. § 1.1206, SES Americom, Inc. ("SES") hereby supplements the discussion of two-degree spacing in SES's prior filings in the Part 25 review proceeding.[1] Specifically, SES provides further support for its proposal to increase the baseline two-degree operating levels so that they are better aligned with current spacecraft parameters, by setting the C-band EIRP downlink level at 3 dBW/4kHz and the Ku-band EIRP downlink level at 13 dBW/4kHz.

As SES has explained, revising the power levels is necessary to ensure that a reasonable baseline set of operational characteristics is in place that will allow new operations to commence pending the completion of coordination with neighboring satellites.[2] If the baseline power levels are too low to allow meaningful new entry while coordination discussions occur, the pro-competitive objective of the two-degree spacing policy is undermined. However, it is also important that the baseline power levels are not so high that typical new entrants lack the incentive to engage in coordination discussions with neighboring systems.

SES noted in its comments that in the development of its proposals, SES had performed a preliminary review of the operational characteristics of SES and Intelsat C-band and Ku-band satellites serving the U.S.[3] SES has now updated and refined that analysis, including additional satellites operating in the domestic arc and using more realistic assumptions regarding roll-off of emissions. Specifically, SES has assembled data from FCC applications and other sources regarding C- and Ku-band EIRP density levels for SES, Intelsat, Telesat, Eutelsat Americas and

---

[1] Joint Comments of SES Americom, Inc. and New Skies Satellites B.V., IB Docket No. 12-267 (filed Jan. 29, 2015) ("SES Comments"); Joint Reply Comments of SES Americom, Inc. and New Skies Satellites B.V., IB Docket No. 12-267 (filed Mar. 2, 2015); Notice of Oral *Ex Parte* Presentation of SES Americom, Inc., IB Docket No. 12-267 (filed May 13, 2015).

[2] SES Comments at 6.

[3] *Id*. at 7.

EchoStar satellites operating at locations between 67° W.L. and 139° W.L. that are U.S.-licensed or otherwise authorized to serve the U.S. market. SES has calculated EIRP densities for saturated carriers, assuming a 20% roll-off factor. SES analyzed thirty-three C-band satellite beams on thirty-one satellites and twenty-nine Ku-band satellite beams on twenty-six satellites.

The results of the updated analysis are attached and demonstrate that increasing the baseline EIRP downlink levels as proposed by SES would better achieve the goals of the Commission's two-degree spacing policies.

Table 1 provides the data for the C-band satellite beams and shows that only one of the currently operating spacecraft beams has an EIRP density that would comply with the Commission's proposed level of 1 dBW/4 kHz. The remaining thirty-two satellite beams (97%) would require coordination under this standard. In contrast, using the SES proposed level of 3 dBW/4 kHz, six of the C-band satellites would comply, and the remaining twenty-seven satellite beams (82%) would require coordination.

Similarly, the Table 2 Ku-band data show that all the satellite beams would require coordination under the Commission's proposed level of 10 dBW/4kHz. Raising the level to 13 dBW/4kHz as SES has suggested would mean seven of the satellite beams could operate without coordination, and the remaining twenty-two satellite beams (76%) would require coordination.

Although the majority of C- and Ku-band spacecraft would still require coordination under the SES proposals, the data show that the SES levels provide much more reasonable baselines for operation pending the completion of coordination discussions. Specifically, in addition to the six C-band satellite beams whose EIRP density levels are at or below 3 dBW/4 kHz, another twelve satellite beams have EIRP density levels between 3 and 4 dBW/4 kHz. Likewise, in addition to the seven Ku-band satellite beams whose EIRP density levels are at or below 13 dBW/4 kHz, another eight satellite beams have EIRP density levels between 13 and 14 dBW/4 kHz. This indicates that in a majority of cases, being able to operate at a baseline level of 3 dBW/4 kHz for C-band or 13 dBW/4 kHz for Ku-band would allow meaningful entry while coordination is pending, enhancing competition in the satellite services market.

Thus, the data support SES's request that the Commission increase the EIRP density limit for C-band operation to 3 dBW/4 kHz and for Ku-band to 13 dBW/4 kHz. The recommended levels are still conservative and will ensure that most spacecraft are required to be coordinated with their neighbors. However, operators will be afforded more reasonable baseline operational levels pending coordination, the Commission's rules will be more in line with the operational reality of today's spacecraft, and the administrative burden on operators to coordinate with adjacent satellites will be reduced.

Please contact the undersigned if you have any questions.

Respectfully submitted,

/s/ Karis A. Hastings

Karis A. Hastings
Counsel for SES Americom, Inc.
karis@satcomlaw.com

cc: Jose Albuquerque
Clay DeCell
Stephen Duall
Chip Fleming
Diane Garfield
Jennifer Gilsenan
Kerry Murray

ATTACHMENT

Table 1. EIRP levels of C-band Spacecraft Operating from 67˚ to 139˚ W.L.

Satellite	Orbital location (E.L.)	C-band Peak EIRP (dBW)	C-band Transponder (MHz)	C EIRP density (dBW/Hz)	C EIRP density (dBW/4kHz)	Source
AMC 8	-139	42.6	36	-32.17	3.8	CONUS beam, SES website
AMC 8	-139	45.3	36	-29.47	6.5	Alaska beam, SES internal data
AMC 7	-135	43.13	36	-31.64	4.4	CONUS beam, FCC application
AMC 7	-135	45.47	36	-29.30	6.7	Alaska beam, FCC application
AMC 10	-135	42.5	36	-32.27	3.7	FCC application
G-15	-133	44.2	36	-30.57	5.4	FCC application
AMC 11	-131	42.5	36	-32.27	3.7	FCC application
G-12	-129	44.2	36	-30.57	5.4	FCC application
AMC 1	-129	41.3	36	-33.47	2.5	FCC application; C band not used except for TT&C
G-13	-127	45.1	36	-29.67	6.3	FCC application
G-14	-125	44.2	36	-30.57	5.4	FCC application
G-18	-123	46.5	36	-28.27	7.7	FCC application
G-23	-121	43.0	36	-31.77	4.2	Intelsat website
Anik F3	-118.7	43.2	36	-31.57	4.4	FCC application
EA 115W A	-114.9	41.9	36	-32.87	3.1	FCC application
EA 113W A	-113	45.5	36	-29.27	6.7	FCC application
Anik F2	-111.1	41.9	36	-32.87	3.1	FCC application
Anik F3	-107.3	43.0	36	-31.77	4.2	FCC application
AMC 18	-105	41.5	36	-33.27	2.7	FCC application
SES-3	-103	42.1	36	-32.67	3.3	FCC application
SES-1	-101	41.7	36	-33.07	2.9	FCC application
G-16	-99	43.7	36	-31.07	4.9	FCC application
G-19	-97	42.2	36	-32.57	3.4	FCC application
G-3C	-95	42	36	-32.77	3.2	FCC application
G-25	-93	39	36	-35.77	0.2	Intelsat website
G-17	-91	43.3	36	-31.47	4.5	FCC application
G-28	-89	42.7	36	-32.07	3.9	Intelsat website
SES-2	-87	43.85	36	-30.92	5.1	FCC application
AMC 9	-83	41.4	36	-33.37	2.6	FCC application
AMC 2	-81	42.1	36	-32.67	3.3	FCC application
AMC 6	-72	41.9	36	-32.87	3.1	FCC application
AMC 3	-67	42.02	36	-32.75	3.3	FCC application
AMC 4	-67	41.72	36	-33.05	3.0	FCC application

Table 2. EIRP levels of Ku-band Spacecraft Operating from 67° to 139° W.L.[1]

Satellite	Orbital location (E.L.)	Ku-band Peak EIRP (dBW)	Ku-band Transponder (MHz)	Ku EIRP density (dBW/Hz)	Ku EIRP density (dBW/4kHz)	Source
AMC 1	-129	50.4	36	-24.37	11.65	FCC application
Horizons 1	-127	51.8	36	-22.97	13.05	FCC application
AMC 21	-125	51.4	36	-23.37	12.65	FCC application; 50 state beam
AMC-21	-125	53.7	36	-21.07	14.95	FCC application; Caribbean/East Coast beam
G-18	-123	53.6	36	-21.17	14.85	FCC application
Echo 9	-121	52.54	26	-20.82	15.20	FCC application
Anik F3	-118.7	54	27	-19.52	16.50	FCC application
EA 115W A	-114.9	52.4	36	-22.37	13.65	FCC application
EA 113W A	-113	52.6	36	-22.17	13.85	FCC application
Anik F2	-111.1	51.9	27	-21.62	14.40	FCC application
Anik F1R	-107.3	52.5	27	-21.02	15.00	FCC application
AMC 15	-105	54	36	-20.77	15.25	FCC application; linear pol antenna
AMC 15	-105	56.7	36	-18.07	17.95	FCC application; circular pol antenna
SES-3	-103	53.3	36	-21.47	14.55	FCC application
SES-1	-101	53.6	36	-21.17	14.85	FCC application
G-16	-99	51.9	36	-22.87	13.15	FCC application
G-19	-97	49.5	27	-24.02	12.00	FCC application
G-3C	-95	50.8	27	-22.72	13.30	FCC application
G-25	-93	51	27	-22.52	13.50	Intelsat website
G-17	-91	51.3	36	-23.47	12.55	FCC application
G-28	-89	51.1	36	-23.67	12.35	Intelsat website
SES-2	-87	52.62	36	-22.15	13.87	FCC application
AMC 16	-85	53	36	-21.77	14.25	FCC application; linear pol antenna
AMC 16	-85	56.3	36	-18.47	17.55	FCC application; circular pol antenna
AMC 9	-83	53.3	36	-21.47	14.55	FCC application
AMC 2	-81	49.7	36	-25.07	10.95	FCC application
AMC 6	-72	52.9	36	-21.87	14.15	FCC application
AMC 3	-67	50.58	36	-24.19	11.83	FCC application
AMC 4	-67	52.47	36	-22.30	13.72	FCC application

[1] Twenty-four out of the twenty-eight Galaxy-19, -3C and -25 transponders have 27 MHz transponders. Therefore, the present analysis uses the 27 MHz transponders, which represent the majority of the capacity. In addition, the present analysis does not include AMC-5, which was deorbited in May 2014.