

August 13, 2007

Scott Kotler, Chief
Systems Analyst Branch
Satellite Division, International Bureau
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: Amendment to Application for New Fixed Earth Station License
SES-LIC-20070802-01024

Dear Mr. Kotler,

Pursuant to §25.116¹ of the Rules and Regulations (“Regulations”) of the Federal Communications Commission (“Commission”), Shell Communications, Inc. (“Shell”), by way of the underlying application submitted by the undersigned, seeks Commission authority to amend pending application SES-LIC-20070802-01024.

The reason for the amendment is to change response to question E15 from “YES” to “NO.” In addition, a demonstration that the proposed antenna is two-degree compliant by showing that its off-axis EIRP density calculation is less than the parameters specified in §25.212² of the Regulations is attached as Exhibit A. Finally, additional cuts of antenna radiation patterns are included in the amendment.

The proposed antenna, a C-band Andrew 2.4m Type 243, does not strictly comply with §25.209 of the Regulations³. However, pursuant to §25.220 (b-c)⁴, of the Regulations, an applicant may request the Commission to consider a non-compliant antenna if it can be shown that the operational power density will be below the requirement of §25.212(c)(2)⁵. Specifically, the earth station operator must provide the power and power density levels that result by reducing the values stated in §25.212(c)(2) by the number of decibels that the non-compliant antenna fails to meet the standards of §25.209.

¹ 47 C.F.R. 25.116.

² 47 C.F.R. 25.212.

³ 47 C.F.R. 25.209.

⁴ 47 C.F.R. 25.220 (b-c).

⁵ 47 C.F.R. 25.212(c)(2).

In this case, the proposed antenna exceeds the patterns of §25.209 by approximately 13dB in the $\pm 70^\circ$ to 110° region measured at 6.65GHz along the elevation axis.⁶ The antenna is designed to operate with a Maximum EIRP Density into the antenna flange of -25.28 dBW/4KHz. This is 22.58 dB below the -2.7dBW/4KHz limit. Applying the methodology in §25.220 (b-c), the Maximum EIRP Density at antenna flange is increased by 13dB to yield,

$$-25.28 \text{ dBW/4KHz} + 13 \text{ dB} = -12.28 \text{ dBW/4KHz.}$$

As calculated, this figure is still below the allowed Maximum EIRP Density at the antenna flange of -2.7.0 dBW/4KHz by 9.58 dB

Sincerely,

/s/ Raul Magallanes

Raúl Magallanes

Attorney

⁶ The starting angle in the GSO orbital plane for antenna radiation pattern compliance subject to 47 C.F.R. 25.209(a)(1), for Ku-band, now starts at 1.5° rather than 1.25° . See *2000 Biennial Regulatory Review Streaming and Order Revisions of Part 25 of the Commission's Rules Governing the Licensing of, and Spectrum Usage by, Satellite Network Earth and Space Stations*. SIXTH REPORT AND ORDER, IB Docket 00-248, FCC 05-62, Paragraph 22, (Released March 15, 2005.)

Exhibit A

Spectral Density Calculation

PROJECT PARAMETERS:			
Antenna Manufacturer:	Andrew	Type 243	
Antenna Diameter:	2.40	m	
Transmit:	6.25	GHz	Horizontal
Antenna Gain (Main Beam):	42.00	dBi	
Max EIRP Density at Flange:	-25.28	dBw/4KHz	
FCC EIRP Density Limit:	-2.70	dBw/4KHz	

§25.209(a) CONFORMING ANTENNA					
Angle (Degrees)	§25.209 Gain (dBi)	EIRP Density (dBw/4KHz)	Actual Gain (dBi)	EIRP Density (dBw/4KHz)	EIRP Margin (dBw/4KHz)
1.50	24.60	21.90	24.00	-1.28	-23.17
1.75	22.92	20.22	17.62	-7.66	-27.88
2.00	21.47	18.77	18.50	-6.78	-25.55
2.25	20.20	17.50	17.62	-7.66	-25.15
2.50	19.05	16.35	13.00	-12.28	-28.63
3.00	17.07	14.37	7.00	-18.28	-32.65
3.50	15.40	12.70	6.00	-19.28	-31.97
4.00	13.95	11.25	2.00	-23.28	-34.52
4.50	12.67	9.97	4.80	-20.48	-30.45
5.00	11.53	8.83	3.50	-21.78	-30.60
5.50	10.49	7.79	7.00	-18.28	-26.07
6.00	9.55	6.85	-5.50	-30.78	-37.62

Exhibit A (cont.)

Spectral Density Calculation

PROJECT PARAMETERS:			
Antenna Manufacturer:	Andrew	Type 243	
Antenna Model:	2.40	m	
Transmit:	6.25	GHz	Vertical
Antenna Gain (Main Beam):	42.00	dBi	
Max EIRP Density at Flange:	-25.28	dBw/4KHz	
FCC EIRP Density Limit:	-2.70	dBw/4KHz	

§25.209(a) CONFORMING ANTENNA					
Angle (Degrees)	§25.209 Gain (dBi)	EIRP Density (dBw/4KHz)	Actual Gain (dBi)	EIRP Density (dBw/4KHz)	EIRP Margin (dBw/4KHz)
1.50	24.60	21.90	21.00	-4.28	-26.17
1.75	22.92	20.22	15.75	-9.53	-29.75
2.00	21.47	18.77	18.00	-7.28	-26.05
2.25	20.20	17.50	16.37	-8.91	-26.40
2.50	19.05	16.35	10.00	-15.28	-31.63
3.00	17.07	14.37	10.50	-14.78	-29.15
3.50	15.40	12.70	8.00	-17.28	-29.97
4.00	13.95	11.25	-6.00	-31.28	-42.52
4.50	12.67	9.97	5.50	-19.78	-29.75
5.00	11.53	8.83	-2.80	-28.08	-36.90
5.50	10.49	7.79	4.80	-20.48	-28.27
6.00	9.55	6.85	1.00	-24.28	-31.12