

June 24, 2009

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

Re: Non-Compliant Statement for SES-STA-20090602-00675

According to Section 25.212(c)(2) of the Rules and Regulations of the Federal Communications Commission (“Regulations”), in the 5925-6425 MHz band, earth stations with an equivalent diameter of equal to or greater than 4.5m may be routinely licensed if the maximum power density into the antenna does not exceed $-2.7 - 10\log(N)^1$ dBW/4KHz for digital SCPC carriers. Furthermore, antennas with an equivalent diameter of less than 4.5m are subject to the provisions of Section 25.220 of the Regulations.

The antenna at issue is a C-band Seatel 9797 (2.4m) (“Antenna”). This Antenna is less than 4.5m in diameter and will be operated on a TDMA system. The Antenna does not strictly comply with Section 25.209 of the Regulations. However, pursuant to Section 25.220 (b-c) 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 Section 25.212(c)(2). Specifically, the earth station operator must provide the power and power density levels that result by reducing the values stated in Section 25.212(c)(2) by the number of decibels that the non-compliant antenna fails to meet the standards of Section 25.209 of the Regulations.

In this case, the proposed Antenna exceeds the patterns of Section 25.209 by approximately 5dB in the -110° to 150° region along the azimuth axis. The Antenna is designed to operate with a maximum EIRP density into the antenna flange of -10.06 dBW/4KHz. This is 7.36 dB below the -2.7 dBW/4KHz limit. Applying the methodology in Section 25.220 (b-c), the maximum EIRP density at Antenna flange is increased by 2dB to yield,

$$-10.06 \text{ dBW/4KHz} + 5 \text{ dB} = -5.06 \text{ dBW/4KHz.}$$

¹ For TDMA, $N = 1$

As calculated, this figure is still below the allowed maximum EIRP density at the Antenna flange of $-2.7.0$ dBW/4KHz by 2.36 dB.

The applicant agrees to accept any adjacent satellite interference in the 3700-4200 MHz receive band as a result of the performance of the Antenna. Should the use of this Antenna cause interference to other systems; the applicant agrees to terminate transmission upon notice from the Commission.

The planned satellite is IS-707 (53.0 degrees West) and the proposed site has coordinates $29^{\circ} 38' 31.9''$ N, $91^{\circ} 6' 44.1''$ W.

An eirp spectral density tabulation for this Antenna is presented below:

Sincerely,

/s/ Raul Magallanes

Raul Magallanes
Attorney

PROJECT PARAMETERS:			
Antenna Manufacturer:	SeaTel	9797	
Antenna Model:	2.4	m	
Transmit:	6.04	GHz	
Antenna Gain (Main Beam):	41.70	dBi	
Max EIRP Density at Flange:	-10.06	dBW/4KHz	
EIRP Density (§25.212(d) Limit):	-2.70	dBW/4KHz	

§25.209(a) CONFORMING ANTENNA			ACTUAL ANTENNA		
Angle (Degrees)	§25.209 Gain (dBi)	EIRP Density (dBW/4KHz)	Actual Gain (dBi)	EIRP Density (dBW/4KHz)	EIRP Margin (dBW/4KHz)
1.25	26.58	23.88	30.00	19.94	-3.94
1.50	24.60	21.90	25.00	14.94	-6.96
1.75	22.92	20.22	17.50	7.44	-12.79
2.00	21.47	18.77	10.00	-0.06	-18.84
2.25	20.20	17.50	5.00	-5.06	-22.56
2.50	19.05	16.35	7.50	-2.56	-18.91
2.75	18.02	15.32	7.50	-2.56	-17.88
3.00	17.07	14.37	4.00	-6.06	-20.43
3.25	16.20	13.50	-5.00	-15.06	-28.57
3.50	15.40	12.70	4.00	-6.06	-18.76
3.75	14.65	11.95	0.00	-10.06	-22.01
4.00	13.95	11.25	4.00	-6.06	-17.31
4.25	13.29	10.59	0.00	-10.06	-20.65
4.50	12.67	9.97	-15.00	-25.06	-35.03
4.75	12.08	9.38	-15.00	-25.06	-34.45
5.00	11.53	8.83	-5.00	-15.06	-23.89
5.25	11.00	8.30	0.00	-10.06	-18.36
5.50	10.49	7.79	2.50	-7.56	-15.35
5.75	10.01	7.31	2.50	-7.56	-14.87
6.00	9.55	6.85	0.00	-10.06	-16.91
6.25	9.10	6.40	-5.00	-15.06	-21.47
6.50	8.68	5.98	-6.00	-16.06	-22.04
6.75	8.27	5.57	-6.00	-16.06	-21.63
7.00	7.87	5.17	-7.50	-17.56	-22.74
8.00	8.00	5.30	-2.00	-12.06	-17.36
9.00	8.00	5.30	-7.00	-17.06	-22.36
20.00	-0.53	-3.23	-15.00	-25.06	-21.84
30.00	-4.93	-7.63	-14.00	-24.06	-16.43
40.00	-8.05	-10.75	-12.00	-22.06	-11.31
60.00	-10.00	-12.70	-20.00	-30.06	-17.36
80.00	-10.00	-12.70	-20.00	-30.06	-17.36
100.00	-10.00	-12.70	-17.00	-27.06	-14.36
120.00	-10.00	-12.70	-9.00	-19.06	-6.36
140.00	-10.00	-12.70	-11.00	-21.06	-8.36
160.00	-10.00	-12.70	-14.00	-24.06	-11.36
180.00	-10.00	-12.70	-20.00	-30.06	-17.36