February 23, 2012

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

INTELSAT

Re: Supplement to Application for Authority to Launch and
     Operate Intelsat 27
     Call Sign S2827; File No. SAT-LOA-20110610-00105

Dear Ms. Dortch:

In response to a question from the FCC staff, Intelsat License LLC ("Intelsat") hereby corrects an error in its above referenced application for the Intelsat 27 satellite. Specifically, on page 22 of the Engineering Statement, the minimum perigee disposal altitude under the IADC formula for Intelsat 27 should be 285 kilometers above GEO, rather than the 235 kilometers inadvertently stated in the application. The additional data requested by the staff is set forth below:

Geostationary Orbit (above the equator): 35786 km
Force equation: $F = P (CpxS)$ where $P = 4.53.10\text{-}6$ Nm^{-2} is the assumed solar flux (reference: Spacecraft Attitude Determination Control by James Wertz, 1978) and $(CpxS)$ is the effective area
Solar Radiation Force (provided by the spacecraft manufacturer/vendor) ~ 365×10^{-6} Newton
Estimated Area: $P/F = (365 \times 10^{-6} \text{ N}) / (4.53 \times 10^{-6} \text{ N/m}^2) = 80.6 \text{ m}^2$
Dry mass of spacecraft: 2821 kg
Solar Pressure Coefficient (C_R) = 1.1
Estimated A/M = Area / mass = 80.6 m^2 / 2821 kg = $0.03 \text{ m}^2/\text{kg}$
A/M adjustment factor = 1.5 (based on the observed Cr for Intelsat's satellite fleet)
Effective A/M ~ $0.045 \text{ m}^2/\text{kg}$
IADC formula: 36,021 km + $(1000 \cdot C_R \cdot \text{A/m})$ = [36,021 km] + $[(1000)(1.1)(0.045 \text{ m}^2/\text{kg})]$ = 36071 km
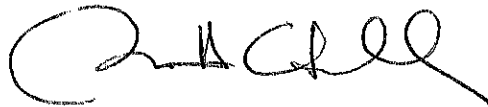De-orbit altitude above geostationary orbit: 36071 km – 35786 km = 285 km

SC/ID	De-orbit Effective A/M: (m^2/kg)	De-orbit Altitude Above GEO (km)	
		FCC Proposal (Section 25.282)	Intelsat Current Reserve
IS27	0.045	285	300

For the Commission's convenience, a corrected page 22 of the Intelsat 27 Engineering Statement is attached.

Sincerely,

Susan H. Crandall
Assistant General Counsel
Intelsat Corporation

Cc: Bob Nelson
     Stephen Duall
     Jay Whaley

Attachment

taking into account the expected mass of the satellite at the end of life and the required delta-velocity to achieve the desired orbit. The fuel gauging uncertainty has been taken into account in these calculations.

In calculating the disposal orbit, Intelsat has used simplifying assumptions as permitted under the Commission's Orbital Debris Report and Order. For reference, the effective area to mass ratio (Cr*A/M) of the Intelsat 27 spacecraft is 0.045 m^2/kg, resulting in a minimum perigee disposal altitude under the IADC formula of at most 285 kilometers above the geostationary arc, which is lower than the 300 kilometer above geostationary disposal altitude specified by Intelsat in this filing. Accordingly, the Intelsat 27 planned disposal orbit complies with the FCC's rules.

13) ITU Filing

Intelsat currently has no filing with the ITU for a satellite network within mobile satellite service ("MSS") that specifies operation on the frequency bands of 292.835 – 317.33 MHz and 243.520 – 268.160 MHz. Intelsat will submit to the Commission the API for a new MSS satellite network that utilizes these frequency bands at the nominal orbital location of 55.5° W.L.