

September 1, 2010

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



Re: Request for Special Temporary Authority to De-Orbit the Intelsat 802 Satellite, Call Sign S2402

Dear Ms. Dortch:

Intelsat North America LLC (“Intelsat”), pursuant to Section 25.210 of the rules of the Federal Communications Commission (“FCC” or “Commission”),<sup>1</sup> herein requests Special Temporary Authority (“STA”) for 30 days, from September 10, 2010 through October 9, 2010, to de-orbit the Intelsat 802 satellite (call sign S2402) from its current location at 32.9° E.L.<sup>2</sup> and to perform telemetry, tracking and command (TT&C) functions with Intelsat 802 during this maneuver.<sup>3</sup> Intelsat also seeks waiver of Section 25.283(c) of the Commission’s rules to the extent the rule requires Intelsat to discharge all propellant remaining in the satellite upon de-orbiting.<sup>4</sup>

Grant of this STA is in the public interest. The Intelsat 802 satellite was launched on June 25, 1997 and is nearing the end of its useful life. Intelsat seeks to commence de-orbiting the spacecraft sometime between September 10, 2010 and October 9, 2010.

Intelsat intends to de-orbit the Intelsat 802 satellite to a perigee 150 km above synchronous altitude. Intelsat has reserved 12.26 kilograms of fuel for this

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<sup>1</sup> 47 C.F.R. § 25.210.

<sup>2</sup> See *Policy Branch Information; Actions Taken*, Report No. SAT-00231, File No. SAT-MOD-20040527-00107 (July 30, 2004).

<sup>3</sup> Intelsat has filed this STA request, an FCC Form 159 and a filing fee electronically via the International Bureau’s Filing System.

<sup>4</sup> 47 C.F.R. § 25.283(c) (“ . . . a space station licensee shall ensure, unless prevented by technical failures beyond its control, that all stored energy sources on board the satellite are discharge by venting excess propellant, discharging batteries, relieving pressure vessels, and other appropriate measures.”).

purpose. To calculate the reserved fuel figure, Intelsat used the “rocket equation” – *i.e.*, it used the expected mass of the satellite at the end of life and the required delta-velocity to achieve the desired orbit. Intelsat has assessed the fuel gauging uncertainty and believes it has provided an adequate margin or fuel reserve to address the uncertainty in the remaining propellant. As a satellite launched prior to March 18, 2002, the minimum perigee requirements for decommissioning set forth in Section 25.283(a) of the Commission’s rules do not apply to Intelsat 802.<sup>5</sup>

The de-orbit of Intelsat 802 will not cause any significant risk of harmful interference to other satellites. During the de-orbit, the satellite’s communications payload will remain inactive and only the TT&C payload will operate. Intelsat requests authority to operate the following TT&C frequencies: 6173.7 MHz (LHCP) and 6176.3 MHz (RHCP) (command uplink); 3947.5 MHz (RHCP), 3948.0 MHz (RHCP), 3952.5 MHz (RHCP) and 3952.0 MHz (RHCP) (telemetry downlink). These frequencies will be coordinated and will operate on a non-interference basis.<sup>6</sup>

Finally, to the extent Section 25.283(c) of the Commission’s rules requires Intelsat to discharge all propellant remaining in the Intelsat 802 satellite upon de-orbiting, Intelsat requests waiver of this rule. Under Section 1.3 of the Commission’s rules, the Commission has authority to waive its rules “for good cause shown.”<sup>7</sup> Good cause exists if “special circumstances warrant a deviation from the general rule and such deviation will serve the public interest” better than adherence to the general rule.<sup>8</sup> In determining whether waiver is appropriate, the Commission should “take into account considerations of hardship, equity, or more effective implementation of overall policy.”<sup>9</sup> As shown below, there is good cause for the requested waiver.

Waiver is appropriate in this case because grant would not undermine the purpose of the rule, which is to reduce the risk of accidental explosion. Intelsat

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<sup>5</sup> 47 C.F.R. § 25.283(d).

<sup>6</sup> See 47 C.F.R. § 25.283(b).

<sup>7</sup> 47 C.F.R. § 1.3; *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

<sup>8</sup> *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990).

<sup>9</sup> *WAIT Radio*, 418 F.2d at 1159.

802 is expected to have 14.92 kg of oxidizer remaining in the tank at the end of its mission, with the tank volume being approximately 660 liters. This minimal amount of oxidizer will not cause the pressure in the oxidizer tank to exceed its burst pressure, even in a worst case end-of-life temperature scenario. Moreover, Intelsat will take steps to minimize the risk of reaction between fuel and oxidizer by using best efforts to vent both the fuel and pressurant through thrusters at the end of the mission. Oxidizer remaining in the propellant manifolds also will be expelled by performing an engine pulsing maneuver. The minimal amount of residual oxidizer, combined with these end-of-life measures, will ensure that there is little risk of accidental explosion following the end-of-life of the Intelsat 802 satellite.

Grant of this waiver is also supported on hardship grounds. Intelsat 802 is currently in orbit and a design change cannot be accomplished at this time. Waiver in these circumstances is further supported by the fact the Intelsat 802 satellite was licensed prior to adoption of the rule requiring discharge of remaining fuel at end of life.<sup>10</sup> Waiver of Section 25.283(c) is also consistent with Commission precedent.<sup>11</sup>

For the reasons set forth herein, Intelsat respectfully requests that the Commission expeditiously grant this request for special temporary authority to de-orbit the Intelsat 802 satellite.

Sincerely,

/s/ Susan H. Crandall

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<sup>10</sup> The Commission originally granted Comsat authority to launch the Intelsat 802 satellite on May 6, 1997. *See Comsat Corporation Application for Authority to Participate in the Launch of Intelsat VIII (F-2)*, Order and Authorization, 12 FCC Rcd 6012 (May 6, 1997). The Commission's orbital debris mitigation rule requiring discharge of all propellant, Section 25.283(c), was adopted in an order released June 21, 2004 that became effective October 12, 2004. *Mitigation of Orbital Debris*, Second Report and Order, 19 FCC Rcd 11567 (2004); *Mitigation of Orbital Debris*, 69 Fed. Reg. 54581-54589 (Sept. 9, 2004).

<sup>11</sup> *See PanAmSat Licensee Corp. Amendment to Application for Modification of Authority to Launch and Operate*, SAT-AMD-20070716-00102 (filed July 16, 2007) (stamp grant with conditions Oct. 4, 2007) (granting partial waiver of Section 25.283(c) to Intelsat 11 (call sign S2237) on hardship grounds).

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