

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

_____	)	
Application of	)	
	)	
Iridium Constellation LLC	)	Call Sign: S2110
	)	
For Special Temporary Authority	)	File No. SAT-STA-2011_____

**APPLICATION FOR SPECIAL TEMPORARY AUTHORITY**

On March 4, 2011, Iridium Constellation LLC (“Iridium”) applied for special temporary authority (“STA”) to operate three space stations in its non-geostationary satellite orbit (“NGSO”) constellation for one hundred eighty (180) days<sup>1</sup> in a manner that complies with the updated orbital debris mitigation plan Iridium has previously submitted to the Commission.<sup>2</sup> The International Bureau has not yet acted on the initial 180 day STA request. Out of an abundance of caution, Iridium files this STA request for a successive one hundred eighty (180) days.

Grant of this application serves the public interest because it would allow Iridium to operate these satellites in accordance with the Commission’s current orbital debris mitigation guidelines and would be wholly consistent with authority granted to other NGSO operators. Importantly, grant will also ensure continuity of reliable service for the critical communications needs of first responders and significant government users such as the Department of Defense around the globe.

---

<sup>1</sup> See 47 C.F.R. § 25.120(b)(2).

<sup>2</sup> See Application of Iridium Constellation LLC for Special Temporary Authority, Call Sign S2110, File No. SAT-STA-20110304-00049 (Filed March 4, 2011); and Application of Iridium Constellation LLC for Minor Modification of Mobile Satellite Service Authorization to Update Orbital Debris Mitigation Requirements, Call Sign S2110, File No. SAT-MOD-20080701-00140 (filed Jul. 1, 2008). The orbital debris mitigation plan in File No. SAT-MOD-20080701-00140 is hereby incorporated by reference

## **I. BACKGROUND**

In 2002, the Commission approved an end-of-life disposal plan developed by Iridium's predecessor.<sup>3</sup> That plan contemplates placement of spacecraft in a disposal orbit at a perigee altitude of approximately 250 kilometers, which would result in atmospheric re-entry within one year. A few years later, in 2004, the Commission conducted a rulemaking on orbital debris mitigation and determined that either placing NGSO spacecraft in an orbit that would allow re-entry to the Earth's atmosphere within twenty-five years or boosting the spacecraft to a perigee altitude level above the low-Earth orbit would "suggest that the space station will operate consistent with the public interest."<sup>4</sup> As required under the new rules, on November 18, 2005, Iridium amended its pending application to provide AMS(R)S to include an orbital debris mitigation statement reflecting the Commission's new twenty-five year standard,<sup>5</sup> which is also consistent with international guidelines.<sup>6</sup> Thereafter, in 2008, Iridium filed an application requesting that the FCC modify its authorization to operate its NGSO satellites consistent with this updated orbital debris plan. These applications remain pending.

## **II. REQUEST FOR SPECIAL TEMPORARY AUTHORITY**

This request seeks special temporary authority for Iridium to operate three satellites in its existing constellation in a manner that complies with its updated orbital debris mitigation plan.

---

<sup>3</sup> See *Application of Space Station System Licensee, Assignor, and Iridium Constellation LLC, Assignee, for Consent to Assignment of License*, File No. SAT-ASG-20010319-00025, Memorandum Opinion, Order and Authorization, 18 FCC Rcd 2271, ¶ 47 (Int'l Bur. 2002).

<sup>4</sup> *Mitigation of Orbital Debris*, 19 FCC Rcd 11567, ¶ 84 (2004) ("*Orbital Debris Order*").

<sup>5</sup> *Iridium Satellite LLC, Orbital Debris Mitigation*, File No. SAT-AMD-20051118-00236 (filed Nov. 18, 2005).

<sup>6</sup> See *Orbital Debris Order*, ¶ 85 (citing the twenty-five year re-entry standard in the guidelines of the Inter-Agency Space Debris Coordination Committee, an international forum of government bodies for the coordination of activities related to space debris).

Following a recent fuel gauging estimate, Iridium has determined that while each satellite has ample fuel to achieve an orbit with a perigee altitude of 600 km, which leads to a predicted orbital lifetime of less than twenty-five years, three of its satellites do not contain fuel reserves sufficient for a controlled de-orbit to 250 km.<sup>7</sup>

### **III. PUBLIC INTEREST STATEMENT**

Grant of the requested special temporary authority will serve the public interest and is necessitated by extraordinary circumstances. In particular, grant of this application will enable Iridium to maximize the useful life of these three satellites. This, in turn, will enable the Iridium constellation to continue to provide highly reliable service to customers who use Iridium's system for communications throughout the world, particularly in regions that are not reached by terrestrial services. It will also benefit Iridium's significant government users, such as the Department of Defense and many federal U.S. bureaus, agencies and departments, including U.S. and Coalition Forces throughout the Middle East region. And it would avoid service disruptions that could impede the use of Iridium's services in national and international emergencies, in which Iridium's system has played a vital role in the past.

Grant of the requested STA is also consistent with Commission policy and precedent. Indeed, since the FCC endorsed a twenty-five year de-orbit policy for NGSO operators in 2004, no operator has been required to follow the stringent one-year re-entry standard earlier proposed by Iridium. For example, the Commission approved the orbital debris mitigation plan of Orbcomm Licensee Corporation to move its satellites to a perigee altitude of 635-680 kilometers

---

<sup>7</sup> Each of these satellites has experienced an anomaly which has resulted in large fuel expenditures.

from which the satellites will be expected to re-enter the atmosphere within twenty-five years.<sup>8</sup>

And the FCC also approved Globalstar's amended post-mission disposal plan to raise its satellites at their end-of-life to a 1514 kilometer graveyard orbit.<sup>9</sup>

For these reasons, Iridium respectfully requests that the Commission expeditiously grant an STA to allow continued operation of three satellites with the capability to achieve atmospheric re-entry within twenty-five years at end of life, for a period of up to one hundred eighty (180) days while its application requesting modification of its authorization to reflect Iridium's updated orbital debris mitigation plan remains pending.

Respectfully submitted,

By: Donna Bethea-Murphy

Donna Bethea-Murphy  
Vice President, Regulatory  
Engineering  
Iridium Satellite LLC  
1750 Tysons Boulevard  
Suite 1400  
McLean, VA 22102

August 26, 2011

---

<sup>8</sup> See Modification Application of Orbcomm Licensee Corp. File No. SAT-MOD-20070531-00076 at 28-31 (filed May 31, 2007) (approved by *Applications by Orbcomm Licensee Corp. for Authority to Modify its Non-Voice, Non-Geostationary Satellite System*, Order and Authorization, 23 FCC Rcd 4804 (Int'l Bur. 2008)).

<sup>9</sup> See Globalstar LLC, Amended Orbital Debris Mitigation Plan, File Nos. SAT-MOD-20030606-00098 and SAT-AMD-20050105-00003 (stamp-granted January 28, 2005, Public Notice, DA No. 05-316 (rel. Feb. 4, 2005)).