

**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-2013_____

**APPLICATION FOR SPECIAL TEMPORARY AUTHORITY**

Iridium Constellation LLC (“Iridium”) requests special temporary authority (“STA”) to operate three space stations in its non-geostationary satellite orbit (“NGSO”) constellation for up to sixty (60) days<sup>1</sup> in a manner that complies with the updated orbital debris mitigation plan Iridium previously submitted to the Commission (the “Iridium ODM Plan”).<sup>2</sup> These three satellites are not included in Iridium’s current STA<sup>3</sup> to operate satellites in a manner that complies with the Iridium ODM through February 14, 2014.<sup>4</sup>

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<sup>1</sup> The Commission may grant an STA for 60 days without placing the application on public notice if the applicant plans to file a request for regular authority. 47 C.F.R. § 25.120(b)(3). Iridium has already filed an application for regular authority to modify its orbital debris mitigation plan. See *infra* note 2.

<sup>2</sup> See 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.

<sup>3</sup> See Federal Communications Commission, Public Notice, Report No. SAT-00892 (Aug. 24, 2012); Iridium Constellation LLC for Special Temporary Authority, Call Sign S2110, File No. SAT-STA-20120222-00021 (filed Feb. 12, 2012). On April 4, 2013 and September 19, 2013, respectively, the International Bureau granted Iridium STA for additional 180-day periods, through February 14, 2014. See Application of Iridium Constellation LLC for Special Temporary Authority, SAT-STA-20130212-00019 (filed Feb. 12, 2013); Application of Iridium Constellation LLC for Special Temporary Authority, SAT-STA-20130806-00102 (filed Aug. 6, 2013).

<sup>4</sup> Simultaneously with the instant application, Iridium is filing a request for STA to operate a total of six space stations for up to 180 days in a manner that complies with the Iridium ODM Plan.

Grant of this application serves the public interest because it would allow Iridium to operate these additional satellites in accordance with the Commission's current orbital debris mitigation guidelines and would be wholly consistent with authority granted to other NGSO operators. In 2015, Iridium expects to launch Iridium NEXT, its cutting-edge, second-generation satellite constellation.<sup>5</sup> Importantly, until the Iridium NEXT launch, grant will ensure continuity of reliable service for the critical communications needs of first responders, public safety users, the U.S. military, the U.S. government, commercial users, and consumers around the globe.

## **I. BACKGROUND**

In 2002, the Commission approved an end-of-life disposal plan developed by Iridium's predecessor.<sup>6</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. 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>7</sup> In 2008, Iridium filed an application requesting that the FCC modify its

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<sup>5</sup> Beyond the space stations in the instant application, Iridium does not anticipate requesting authority to operate additional satellites in a manner compliant with the Iridium ODM Plan until 2017, after the launch of Iridium NEXT.

<sup>6</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>7</sup> *Mitigation of Orbital Debris*, 19 FCC Rcd 11567, ¶ 84 (2004) ("*Orbital Debris Order*").

authorization to operate its NGSO satellites consistent with this updated orbital debris plan.<sup>8</sup> The 2008 application remains pending.

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

The Commission has granted STA for Iridium to operate three satellites in its NGSO constellation in a manner compliant with the Iridium ODM. This request seeks special temporary authority for Iridium to operate an additional three satellites in its existing constellation in a manner that complies with the Iridium ODM. Following fuel gauging estimates, Iridium 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, an additional three of its satellites do not, or shortly will not, contain fuel reserves sufficient for a controlled de-orbit to 250 km.<sup>9</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. Iridium anticipates launch of Iridium NEXT, its second-generation satellite constellation, in 2015. Until then, grant 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. And it

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<sup>8</sup> *Iridium Constellation LLC, Orbital Debris Mitigation*, File No. SAT-MOD-20080701-00140 (filed July 1, 2008).

<sup>9</sup> Each of these satellites has experienced an anomaly or maneuver which has resulted in large fuel expenditures.

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 from which the satellites will be expected to re-enter the atmosphere within twenty-five years.<sup>10</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>11</sup>

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<sup>10</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>11</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)).

**IV. CONCLUSION**

For these reasons, Iridium respectfully requests that the Commission expeditiously grant an STA to allow operation of three additional satellites with the capability to achieve atmospheric re-entry within twenty-five years at end of life, for a period of up to sixty (60) days while its application requesting modification of its authorization to reflect Iridium's updated orbital debris mitigation plan remains pending.

Respectfully submitted,

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