

**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-2017 _____
	)	

**APPLICATION FOR SPECIAL TEMPORARY AUTHORITY**

Iridium Constellation LLC (“Iridium”) hereby requests special temporary authority (“STA”) for thirty (30) days,<sup>1</sup> commencing February 28, 2017, to modify its authorization for its “Big LEO” band non-geostationary satellite orbit (“NGSO”) constellation (call sign S2110).<sup>2</sup> Iridium plans to replace its first-generation satellites on a one-for-one basis through a phased launch of its second-generation satellites. Rather than commencing immediate end-of-life disposal for first-generation satellites that have been replaced, this STA seeks authority to keep up to 10 first-generation satellites in a storage orbit at an altitude of approximately 763 km (15 km below mission altitude). Iridium will maintain first-generation satellites in the storage orbit initially as spares and eventually de-boost and de-orbit them on a rolling basis consistent with the Iridium orbital debris mitigation plan previously approved by the Commission.<sup>3</sup> Maintaining these first-generation satellites in a storage orbit will serve the public interest by facilitating an

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<sup>1</sup> See 47 C.F.R. § 25.120(b)(4). Iridium will also file a request for STA for a period of 180 days, which Iridium anticipates will be placed on Public Notice. As needed, Iridium also will file a request for 30-day STA extension.

<sup>2</sup> See *Iridium Constellation LLC, Application for Modification of License to Authorize a Second-Generation NGSO MSS Constellation*, Order and Authorization, 31 FCC Rcd. 8675 (Aug. 1, 2016) (“Iridium NEXT Order”).

<sup>3</sup> See *Iridium Constellation LLC Application for Modification of Big LEO License to Change the Orbital Debris Mitigation Plan*, 29 FCC Rcd 9422 (I.B. 2014).

efficient transition to Iridium’s second-generation fleet, helping to ensure continuity of service for Iridium’s end users and enabling the deorbiting process in a manner that coordinates satellite movements safely.

**I. BACKGROUND AND REQUEST FOR SPECIAL TEMPORARY AUTHORITY**

On January 1, 1995, the FCC authorized Iridium’s predecessor-in-interest to launch and operate an NGSO mission constellation of 66 satellites in the Big LEO band along with 12 in-orbit spares.<sup>4</sup> On August 1, 2016, the Commission authorized Iridium to construct, deploy and operate its second-generation satellite constellation, commonly known as Iridium NEXT, with 66 space stations and up to 15 “second-generation in-orbit satellites.”<sup>5</sup> Specifically, the grant “is based on a planned one-for-one substitution of first-generation satellites by second-generation satellites, but does not preclude Iridium seeking authorization at a later date to retain some first-generation satellites as spares.”<sup>6</sup>

This STA seeks authority to retain up to 10 first-generation satellites as spares upon their substitution by a second-generation satellite. Iridium began its phased launch of second-generation satellites with the successful launch and delivery of 10 satellites to a temporary 625 km parking orbit in January 2017.<sup>7</sup> Following positioning to the 780 km mission orbit and completion of in-orbit testing, second-generation satellites from this and subsequent launches will be brought into operation and replace first-generation satellites in specific orbital slots. Under the STA, Iridium seeks to move a replaced first-generation satellite to a storage orbit of

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<sup>4</sup> See *Application of Motorola Satellite Communications, Inc.*, Order and Authorization, 10 FCC Rcd 2268, ¶ 25 (IB 1995).

<sup>5</sup> See generally Iridium Next Order, ¶¶ 45-47.

<sup>6</sup> *Id.*, ¶ 5 n.22.

<sup>7</sup> *Iridium Announces Successful First Launch of Iridium NEXT Satellites*, Iridium.com (Jan. 14, 2017), available at <http://investor.iridium.com/releasedetail.cfm?releaseid=1007978>.

approximately 763 km. There, these first-generation satellites can serve as spares to support Iridium's phased deployment of Iridium NEXT while they are de-boosted and de-orbited on a rolling basis. While positioned in storage orbit, the first-generation satellites will not be co-located and will not operate as part of Iridium's mission constellation.<sup>8</sup>

## **II. PUBLIC INTEREST STATEMENT**

Grant of this STA request will serve the public interest. As the Commission has acknowledged, Iridium NEXT will "provide mobile voice and data services to end users on a network with improved voice quality and enhanced data transmission speeds."<sup>9</sup> Allowing Iridium to retain some first-generation spares will backstop Iridium's phased transition to Iridium NEXT and its provision of these beneficial service enhancements. In addition, the STA will have a negligible effect on orbital debris mitigation. As Iridium subsequently launches second-generation satellites, Iridium will de-boost and de-orbit the first-generation satellites on a rolling basis. Use of the storage orbit will also provide time separation between the deorbits and ensure the availability of engineering resources needed to coordinate the safe movement of multiple satellites.

Grant of this STA request also poses no interference risk. The proposed location of the first-generation spare satellite orbit ensures safe station-keeping without any overlap in orbital position. Further, upon replacement by a second-generation satellite in the mission constellation, a first-generation satellite will suspend mission operations and will not be co-located and operated in tandem with the second-generation satellite.

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<sup>8</sup> Cf. File No. SAT-MOD-20120813-00128.

<sup>9</sup> Iridium NEXT Order, ¶ 1.

**III. CONCLUSION**

Iridium respectfully requests that the Commission expeditiously grant this STA to permit Iridium to retain up to 10 first-generation satellites in a storage orbit as spares prior to their deorbit.

Respectfully submitted,

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