

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

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Application of	)	
	)	
Iridium Constellation LLC	)	Call Sign: S2110
	)	
For Special Temporary Authority	)	File No. SAT-STA-2012_____
_____	)	

**APPLICATION FOR SPECIAL TEMPORARY AUTHORITY**

Iridium Constellation LLC (“Iridium”) hereby requests special temporary authority (“STA”) for thirty (30 days)<sup>1</sup>—from November 13, 2012 through December 12, 2012— to modify its authorization for its “Big LEO” band non-geostationary satellite orbit (“NGSO”) constellation (call sign S2110).<sup>2</sup> On November 13, 2012, spare satellite SV094 will begin operation and replace satellite SV023 in plane 2, slot 2.<sup>3</sup> Iridium will, at that time, suspend mission operations of SV023 and maintain it as a spare. Rather than move SV023 to the nominal 645 kilometer spare satellite orbit, this STA seeks authority to keep SV023 at mission altitude and move it to a parking orbit approximately 300 kilometers behind SV094. Such positioning will serve the public interest by reducing the distance SV023 must travel and thereby conserving fuel that otherwise would be expended in transferring SV023 back and forth between the spare satellite and mission orbits.

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<sup>1</sup> See 47 C.F.R. § 25.120(b)(4). Iridium plans to file a modification application seeking regular authority before the expiration of the 30-day special temporary authority.

<sup>2</sup> See *Motorola Satellite Communications, Inc. for Authority to Construct, Launch, and Operate a Low Earth Satellite System in the 1616-1626.5 MHz Band*, 10 FCC Rcd 2268 (1995) (“*Motorola Order*”).

<sup>3</sup> Iridium will file a notice with the Commission within ten days of bringing in-orbit spare SV094 into operation. See 47 C.F.R. § 25.143(d).

## **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 "in accordance with the technical specifications set forth in its applications . . . ."<sup>4</sup> The application of Iridium's predecessor in interest specified that spare satellites would "be placed in a nominal 645 km orbit."<sup>5</sup>

On November 13, 2012, Iridium will bring spare satellite SV094 into operation in plane 2, slot 2 to replace satellite SV023. SV023 will then suspend mission operations and be maintained as a spare. This STA seeks authority to position spare satellite SV023 approximately 300 kilometers behind operational satellite SV094 in a parking orbit at approximately 778 kilometers, its current mission altitude, instead of the nominal 645 kilometer orbit. SV023 will not be co-located with SV094 and will not operate as part of Iridium's mission constellation.<sup>6</sup>

## **II. PUBLIC INTEREST STATEMENT**

Grant of this STA request will serve the public interest. By positioning SV023 in a parking orbit at its mission altitude rather than moving the satellite to the nominal 645 km orbit, Iridium will reduce greatly the distance SV023 will travel and minimize the amount of fuel that

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<sup>4</sup> See *Motorola Order*, ¶ 25. On July 19, 2012, Iridium increased its total number of space stations and commenced operating a pair of co-located satellites in plane 4, slot 7 of its NGSO mission constellation pursuant to a grant of STA. See File No. SAT-STA-20120716-00116 (filed July 16, 2012); File No. SAT-STA-20120813-00129 (filed Aug. 13, 2012); File No. SAT-STA-20120927-00157 (filed Sept. 27, 2012). Iridium has also filed a modification application seeking regular authority to periodically co-locate and operate additional satellites in its mission constellation, which remains pending. See File No. SAT-MOD-20120813-00128 (filed Aug. 13, 2012). As described herein, satellite SV023 will not be co-located with satellite SV094.

<sup>5</sup> See *Motorola Satellite Communications, Inc., Minor Amendment to Application of Motorola Satellite Communications, Inc. for Authority to Construct, Launch and Operate a Low Earth Orbit Satellite System in the 1616-1626.5 MHz Band*, File No. SAT-AMD-19941115-00069, at Table R-1 (Rev 1) – (Page 1 of 3) n.1 (filed Nov. 15, 1994) ("Motorola 1994 Amendment").

<sup>6</sup> Cf. File No. SAT-MOD-20120813-00128.

SV023 expends. By eliminating the need for SV023 to make a round trip from the mission orbit to the spare satellite orbit and back again, SV023 will conserve fuel that may be needed to support future de-orbit needs.

In addition, grant of this STA request poses no interference risk. The proposed location of SV023 approximately 300 km behind SV094 ensures safe station-keeping of both satellites without any overlap in orbital position.<sup>7</sup> Further, upon replacement of SV023 with SV094 in the mission constellation, SV023 will suspend mission operations and will not be co-located and operated in tandem with SV094.

### **III. CONCLUSION**

Iridium respectfully requests that the Commission expeditiously grant this STA to permit satellite SV023, after it is replaced by satellite SV094 in Iridium's mission constellation, to move to a parking orbit for a period of thirty (30) days.

Respectfully submitted,

By: Donna Bethea-Murphy

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<sup>7</sup> The Iridium satellites operate with 6.0 km station-keeping. See Motorola 1994 Amendment, Table R-1 (Rev 1) – (Page 3 of 3).