



Federal Communications Commission
Washington, D.C. 20554

April 15, 2014

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

Re: IBFS File No. SAT-MOD-20080701-00140;
SAT-MOD-20131227-00148; Call Sign S2110.

Dear Ms. Bethea-Murphy:

On July 1, 2008, Iridium Constellation LLC (Iridium) filed an application to modify the end-of-life disposal plan for its Big LEO constellation. Under the proposed plan, at end-of-life the current-generation satellites would be lowered from the approximately 778 km near-circular mission orbit to an orbit with a perigee altitude of approximately 600 km. Iridium estimates the satellites would re-enter the Earth's atmosphere within 25 years as a result of natural decay of this disposal orbit.¹ In contrast, under the disposal plan approved by the Commission in February 2002, Iridium's satellites would be lowered to an orbit with a perigee altitude of approximately 250 km.² This disposal orbit would result in re-entry into the Earth's atmosphere within a few months. Currently, six satellites operate under Special Temporary Authority in a manner consistent with the disposal plan proposed in 2008.³ These satellites do not, or shortly will not, contain fuel reserves sufficient to de-orbit in conformance with Iridium's currently-authorized end-of-life plan.⁴

On December 27, 2013, Iridium filed an application to modify its Big LEO authorization to launch and operate next generation satellites.⁵ Iridium states that the new satellites would be substituted for the current satellites as they are decommissioned, though it asks to reserve the option to retain some of

¹ Iridium Constellation LLC's Application for Minor Modification, IBFS File No. SAT-MOD-20080701-00140, Appendix A at 3.

² Applications of Space Station System Licensee, Inc., Assignor, and Iridium Constellation LLC, Assignee, for Consent to Assignment of License Pursuant to Section 310(d) of the Communications Act, *Memorandum Opinion, Order and Authorization*, DA 02-307, 17 FCC Rcd 2271, 2290 ¶ 47 (Int'l Bur. 2002).

³ See IBFS File No. SAT-STA-20131114-00134 (granted Dec. 24, 2014).

⁴ Iridium Constellation LLC's Application for Special Temporary Authority, IBFS File No. SAT-STA-20131114-00134, Legal Narrative at 3.

⁵ Iridium Constellation LLC's Application for Modification of NGSO Authorization to Launch and Operate Replacement Satellites, IBFS File No. SAT-MOD-20131227-00148 (NEXT Application).


the current satellites as potential spares.⁶ Iridium anticipates the new constellation to be in-orbit and operational shortly after final launch in May of 2017.⁷ The end-of-life disposal plan for the new satellites specifies a disposal orbit perigee of 500 km, which Iridium states will also result in atmospheric re-entry within 25 years.⁸

In light of the above, please provide the following information to facilitate evaluation of Iridium's proposed end-of-life disposal plan for its current constellation:

- 1) The amount of fuel remaining on each satellite, its fuel consumption rate (kg/month), and the projected date after which each satellite, if operated under the proposed end-of-life disposal plan, would no longer have sufficient fuel to comply with the currently-authorized disposal plan.
- 2) A comparison of the area-to-mass ratios of the two generations of satellites which supports the requested 100 km higher disposal orbit for the first generation satellites despite a similar predicted atmospheric re-entry period of within 25 years.
- 3) The extent to which the re-entry period for first-generation satellites could be minimized consistent with Iridium's launch and operation schedule for its next generation constellation.

The requested information should be provided no later than May 15, 2014.⁹

Sincerely,


Jose P. Albuquerque
Chief, Satellite Division
International Bureau

cc:

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Ms. Elizabeth R. Park
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⁶ See NEXT Application, Legal Narrative at 3-4, Engineering Statement at 9.

⁷ NEXT Application, Engineering Statement at 9.

⁸ NEXT Application, Exhibit C at 7.

⁹ See 47 C.F.R. § 25.112(c).

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