Federal Communications Commission
Washington, DC 20554

International Bureau

May 9, 2011

Donna Bethea-Murphy
Iridium Constellation LLC
1750 Tysons Boulevard, Suite 1400
McLean, VA 22102

Re: File No. SAT-AMD 20051118-00236
File No. SAT-MOD 20080701-00140

Dear Ms. Murphy:

On November 18, 2005 Iridium filed the referenced amendment to its still-pending application for AMS(R)S authority, proposing modification of the end-of-life disposal plan for its Big LEO satellites. Iridium proposed the same modification of the disposal plan in the referenced application for modification filed on July 1, 2008. Under the proposed new plan, at end-of-life the Iridium satellites will be lowered from the approximately 778 km near-circular mission orbit to an orbit with a perigee altitude of approximately 600 km. Iridium estimates that the satellites will re-enter the Earth's atmosphere within 25 years as a result of natural decay of the disposal orbit.[1]

The new proposal is significantly different from the disposal plan that the Commission approved in February 2002.[2] Under the plan approved in 2002, each satellite was to be lowered to an orbit with a perigee altitude of approximately 250 km, resulting in re-entry into the earth's atmosphere within a few months. Under the new disposal plan the satellites will remain in service longer and will re-enter the atmosphere after a much longer period of time following de-commissioning. In light of the additional time that these satellites will remain in orbit and the potential spread between re-entry events, we seek additional information concerning collision risk and insurance arrangements.[3] The Commission has held that the existence of insurance policies to address orbital debris risks is a relevant public interest factor to consider when reviewing an applicant's plans to dispose of its space stations at end of life by means of atmospheric re-entry.[4] Therefore, in order to facilitate evaluation of Iridium's new end-of-life disposal plan please provide the following information:

1) Whether Iridium has, or plans to obtain, insurance coverage for re-entry events after the extended time in orbit that will result from implementation of the new plan.

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[1] Iridium modification application, SAT-MOD 20080701-00140, Appendix A at 3.
[2] *Memorandum Opinion, Order and Authorization*, DA 02-307 at ¶ 47.
[3] Under the plan approved previously, Iridium Satellite LLC had secured an insurance policy that provided two types of coverage. One type of coverage, with a term of three years, pertained to the operation and maintenance of the system, including the planned de-orbiting of up to eight space vehicles per year. The second type of coverage, with an 18-month term once triggered, covered activities related to planned de-orbiting of the constellation. *Memorandum Opinion, Order and Authorization,* DA 02-307 at ¶ 48.
[4] *Mitigation of Orbital Debris, Second Report and Order*, FCC 04-130 (rel. June 21, 2004), at ¶ 111.

2) A quantitative estimate of the additional collision risk from the extended time in orbit after de-commissioning and a description of any measures that have been taken, or will be taken, to minimize such additional collision risk.

3) A new casualty risk assessment taking into account a population projection for the time of anticipated re-entry, 25 years after end-of-life.[5]

4) Iridium states in Appendix A to the referenced modification application that it plans to de-orbit retired satellites in two phases, first moving them into circular orbits 20 km below the 778 km altitude of the operational constellation and then lowering the perigees to 600 km. Compare the propellant expenditure and collision risk entailed by this plan with that which would result from simply lowering perigee altitude to 600 km without lowering the apogee. If the propellant reserved for the apogee lowering during the phase-one maneuver were instead used to supplement the phase two perigee lowering maneuver and bring the perigee below 600 km, what would the resultant perigee altitude be, and what would be the estimated reduction in orbital lifetime and collision risk as compared to the proposed plan?

Failure to provide this information by June 30, 2011 will result in dismissal of the referenced application without prejudice to refiling, pursuant to Section 25.112(c) of the Commission's rules.

Sincerely,

Robert G. Nelson
Chief, Satellite Division

[5] *See* DA 04-1724 for guidance on casualty risk assessment