

Orbital Debris Mitigation Plan

Intelsat is proactive in ensuring safe operation and disposal of this and all spacecraft under its control. The four elements of debris mitigation are addressed below.

1.1 Spacecraft Hardware Design

Intelsat 902 is designed such that no debris will be released during normal operations. Intelsat has assessed the probability of collision with meteoroids and other small debris (<1 cm diameter) and has taken the following steps to limit the effects of such collisions: (1) critical spacecraft components are located inside the protective body of the spacecraft and properly shielded; and (2) all spacecraft subsystems have redundant components to ensure no single-point failures. The spacecraft does not use any subsystems for end-of-life disposal that are not used for normal operations.

1.2 Minimizing Accidental Explosions

Intelsat has assessed the probability of accidental explosions during and after completion of mission operations. The spacecraft is designed in a manner to minimize the potential for such explosions. Propellant tanks and thrusters are isolated using redundant valves and electrical power systems are shielded in accordance with standard industry practices. At the completion of the mission and upon disposal of the spacecraft, Intelsat will ensure the removal of all stored energy on the spacecraft by depleting all propellant tanks, venting all pressurized systems, and by leaving the batteries in a permanent discharge state.

1.3 Safe Flight Profiles

Intelsat has assessed and limited the probability of the space station becoming a source of debris as a result of collisions with large debris or other operational space stations. Intelsat 902 will not be located at an orbital location that has an overlapping station-keeping volume with another satellite. Intelsat is not aware of any other FCC licensed system, or any other system applied for and under consideration by the FCC, that will have an overlapping station-keeping volume with Intelsat 902. Intelsat is also not aware of any system with an overlapping station-keeping volume with Intelsat 902 that is the subject of an ITU filing and that is either in orbit or progressing towards launch.

1.4 Post Mission Disposal

At the end of the mission, Intelsat intends to dispose of the spacecraft by moving it to an altitude of at least 150 kilometers above the geostationary arc. Intelsat has reserved 52.5 kilograms of fuel for this purpose. In its *Second Report and Order* in IB Docket 02-54, Mitigation of Orbital Debris,¹ the FCC declared that satellites launched prior to March 18, 2002, such as the Intelsat

¹ Mitigation of Orbital Debris, *Second Report and Order*, 19 FCC Rcd 11567 (2004).

902 satellite, would be designated as grandfathered satellites not subject to a specific disposal altitude. Therefore, the planned disposal orbit for Intelsat 902, complies with the FCC's rules.

The reserved fuel figure was determined by the spacecraft manufacturer and provided for in the propellant budget. This figure takes into account the expected mass of the satellite at the end of life and the required delta-velocity to achieve the desired orbit. The fuel gauging uncertainty has been taken into account in these calculations.

Certification Statement

I hereby certify that I am a technically qualified person and am familiar with Part 25 of the Commission's rules. The contents of this engineering statement were prepared by me or under my direct supervision and to the best of my knowledge are complete and accurate.

/s/ Richard O. Evans

August 16, 2016

Richard O. Evans

Date

Intelsat

Senior Principal Regulatory
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