

Response to Question 43: Description of Application

By *Memorandum Opinion and Order* dated February 4, 2013, the Commission's International Bureau granted the application of Iridium Constellation, Inc. (the "Iridium Space Station Licensee") to modify its space-station license to permit it to provide Aeronautical Mobile-Satellite (Route) Service ("AMS(R)S") in the 1618.725-1626.5 MHz band.¹ The *Space Station Grant* stated that "Iridium will need to file an application to modify its earth station licenses, and that application must be granted before commencement of AMS(R)S operations in the United States and on U.S. commercial aircraft."² This direction was consistent with the Commission's determination in December 2012 that the provision of AMS(R)S by earth stations operating on frequencies other than the 1.5/1.6 GHz band "can be addressed on a case-by-case basis under Part 25 licensing rules."³

Iridium Satellite LLC ("Iridium"), which is an affiliate of the Iridium Space Station Licensee, hereby requests that its blanket earth station license be modified so that Iridium may provide AMS(R)S in the United States and on U.S. commercial aircraft.⁴ Iridium agrees to be bound by the conditions set forth in the *Space Station Grant*.⁵ In particular, in connection with using its earth stations on aircraft to provide AMS(R)S, Iridium:

- a. will confine its AMS(R)S operations to the 1618.725-1626.5 MHz frequency band;
- b. will comply with MSS coordination agreements with other MSS operators, the results of the agreement seeking process under ITU Radio Regulation 9.21, and coordination agreements with operators of radio astronomy observatories;
- c. acknowledges that any additional protection desired for AMS(R)S operations from interference from previously authorized MSS operations in adjacent frequency bands, beyond that afforded by existing arrangements, must be sought through new or modified inter-operator arrangements;

¹ *In the Matter of Iridium Constellation LLC for Authority to Modify License for a Low Earth Orbit Mobile Satellite System, Memorandum Opinion and Order*, DA13-141, File No. SAT-MOD-19961204-00139 (Feb 4, 2013) (the "Space Station Grant").

² *Id.* at ¶ 14.

³ *In the Matter of Revisions to Parts 2 and 25 of the Commission's Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary-Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands, Notice of Proposed Rulemaking and Report and Order*, FCC 12-161, IB Docket No. 12-376 (Dec 28, 2013)(the "Aircraft Earth Station Order"), at ¶ 140.

⁴ AMS(R)S will be provided via Iridium's L-band transceivers in accordance with the parameters specified in Iridium's blanket license for portable handheld earth terminals. There will be a hard-wired connection between an L-band transceiver in the aircraft and an antenna installed on the roof or tail of the aircraft. Because Iridium is not proposing any change in the transmission characteristics of its earth stations, it is not providing a radiation hazard study with this application.

⁵ See *Space Station Grant* at ¶16, conditions (a) through (f).

- d. will, in connection with the provision of AMS(R)S to aircraft of any particular country of registry or in any particular airspace, comply with the applicable laws, regulation, rules and licensing procedures of that country and/or the relevant airspace administrator;
- e. will limit AMS(R)S operations outside the United States to the oceanic regions, the Antarctic land mass and adjacent waters, and the remote areas of those territories for which it has successfully completed the agreement seeking process pursuant to ITU Radio Regulation 5.367; and
- f. will give priority to AMS(R)S and 911 safety messages, by real-time pre-emption if necessary, over all Iridium message traffic that is not considered safety-related pursuant to a recognized safety service.⁶

Iridium's request for AMS(R)S authority is in the public interest. A grant of Iridium's application will facilitate the provision of communications concerning safety and regularity of aircraft flight which, as the Commission found in its *Space Station Grant*, "would serve the public interest by providing enhanced options for safety communications with aircraft in areas where such communications are currently unavailable or limited."⁷ Accordingly, Iridium respectfully requests that this application be granted expeditiously.

⁶ Each air-to-ground ("AtG") and ground-to-air ("GtA") message will be assigned a priority based on message type. For AtG messages, the avionics equipment on the aircraft will determine message priority and will send the message to the Iridium transceiver in the order specified for messages delivered. Iridium will provide AMS(R)S users priority access to the satellite. For GtA messages, each message will be delivered to the Iridium gateway with a priority established for the delivery of that message. Based on message priority, messages will be delivered to each subscriber in a "first in, first out" order within groups of messages that have the same priority, with highest priority first. AMS(R)S messages will always receive higher priority allocation than AMSS communications. The AMS(R)S services will also receive higher priority than any non-safety messages and communications on the Iridium system.

⁷ *Space Station Grant* at ¶ 15.