

Exhibit A

Description of Amendment

Inmarsat Mobile Networks, Inc. (“Inmarsat”) hereby amends its application seeking market access for the Inmarsat-5 F3 satellite (“I5F3”) at the nominal 180° E.L. orbital location to:

- Change the offset location of I5F3 by 0.1 degree, from 179.7° E.L. to 179.6° E.L.;
- Provide a two-degree interference analysis using the technical parameters of a hypothetical space station with the same characteristics as the target satellite, in response to the Commission’s request for such analysis,¹ based on the amended offset location of 179.6° E.L.; and
- Supplement the orbital debris mitigation showing in response to the Commission’s August 11, 2015 Letter Request.

All other information in the application remains unchanged.

I. CHANGE TO OFFSET LOCATION

Inmarsat amends the subject application to reflect a 0.1 degree shift in the offset location of I5F3 from 179.7° E.L. to 179.6° E.L. The change in the offset location is necessary to effectuate Inmarsat’s international coordination with another satellite operator. The minor change in the location results in changes to the references in the Schedule S to reflect the new location:

- The entries in S3.a and c, and in column d of S8 should be updated to reflect 179.6° E.L. as the orbital location of the satellite.
- The range of the orbital arc in which adequate service can be provided, as identified in S3.g and h should be updated as follows:

Westernmost: 101.6° E

Easternmost: 101.6° W

The calculated range of the orbital arc has also been corrected to reflect a five-degree maximum elevation angle, consistent with the earth station antenna information provided in the Schedule B.

¹

See Letter to Elizabeth Park, Latham & Watkins LLP, from Jose P. Albuquerque, Chief, Satellite Division, International Bureau, FCC, Re: Inmarsat Mobile Networks, Inc. IBFS File No. SES-LIC-20150402-00188, Call Sign E150028 (Aug. 11, 2015) (“August 11, 2015 Letter Request”).

The satellite coverage and beam diagrams provided in the application (including the gxt files) do not change perceptibly as a result of the 0.1-degree shift in the satellite location.

Inmarsat amends and restates Section A.12.3 Safe Flight Profiles in the Technical Annex to the application to reflect the 179.6° E.L. location:

A.12.3 Safe Flight Profiles
(§25.114(d)(14)(iii))

In considering current and planned satellites that may have a station-keeping volume that overlaps the Inmarsat-5 F3 satellite, Inmarsat has reviewed the lists of FCC-authorized satellite networks, as well as those that are currently under consideration by the FCC. In addition, networks for which a request for coordination has been published by the ITU within $\pm 0.15^\circ$ of 179.6° E.L. have also been reviewed.

Intelsat operates the C-/Ku-band Intelsat-18 satellite at 180° E.L. and with an east-west station-keeping tolerance of $\pm 0.05^\circ$. Thus, Inmarsat will locate the Inmarsat-5 F3 satellite at 179.6° E.L. in order to eliminate the possibility of any station-keeping volume overlap with the Intelsat-18 satellite.

There are no FCC licensed satellite networks nor are there any pending applications before the Commission to operate a satellite within $\pm 0.15^\circ$ of 179.6° E.L. With respect to published ITU filings, there are several networks filed within this sub-arc however other than Intelsat-18, none are operational. Inmarsat can find no evidence that the other filed networks are currently being progressed towards launch. Accordingly, Inmarsat concludes that physical coordination of the Inmarsat-5 F3 satellite with any other party is not required at the present time.

II. TWO-DEGREE SPACING ANALYSIS

In its August 11, 2015 Letter Request, the Commission requested that Inmarsat provide a two-degree analysis demonstrating that I5F3 is compatible with any authorized space station that is two degrees away. Because there are no currently authorized space stations within two degrees of the orbital location, as amended herein to 179.6° E.L., Inmarsat provides the analysis in the attached Attachment 1 using a hypothetical system having the same technical parameters as I5F3. The contents of Attachment 1 are intended to supplement Section A.11 of the Technical Annex in the application.

III. ORBITAL DEBRIS MITIGATION SHOWING

The Commission requested in the August 11, 2015 Letter Request for details regarding the residual pressurized helium that will remain after the spacecraft's helium system tanks are sealed as part of the end-of-life shutdown operations:

- (a) *the volume of each tank in liters:* 68.8
- (b) *the estimated mass of the helium, in grams, at the space station's end-of life:* 357.4
- (c) *the estimated temperature of residual helium, in degrees Celsius or kelvins:*

Based on Inmarsat's experience with its other Global Xpress spacecraft, residual helium temperatures are estimated to be in the range of 13-15° C at the end of transfer orbit.

- (d) *the estimated pressure of residual helium, in bars:*

Per Inmarsat's flow-model at the end of transfer orbit, it is estimated that the helium pressure will be ~1567.1 kPa = 15.67 Bars.