

Exhibit A--Narrative

ISAT US, Inc.

Application for Modification

Call Sign E150097

I. Description of Modification

ISAT US Inc. ("Inmarsat") hereby seeks to modify its Global Xpress (GX) Ka-band blanket earth station license, Call Sign E150097 ("License"), to add five new GX Earth station terminal types, L3Harris DarkWing, Gigasat ULV, Paradigm Hornet 100GX 950mp, EMS Taipan, and Comtech Recon 1.3m. These terminals will communicate with the Inmarsat-5 F2 ("I5F2") and Inmarsat-5 F3 ("I5F3") satellites.

The License initially was issued under IBFS File No. SES-LIC-20150625-00383 ("GX Land Application") and was modified by File Nos. SES-MFS-20160527-00458, SES-MOD-20160720-00669, SES-MOD-2017042500465, SES-MOD-20180323-00263, SES-MOD-20190417-00528, SES-MOD-20190801-01017, and SES-MOD-2020060200589. The GX Land Application and the applications for the subsequent captioned modifications are incorporated by reference.

II. New Earth Station Terminals

This modification application seeks to add five terminal models from different manufacturers, as described below. The terminals will operate on the same frequencies as the GX Terminals in the current license: 19.7-20.2 GHz (space-to-Earth) and 29.5-30.0 GHz (Earth-to-space). The terminals will operate at fixed or temporary fixed locations and allow professional personnel from organizations from various sectors, initially U.S. government and potentially including in the future media and humanitarian, to quickly deploy a communication network to meet mission needs.

As illustrated in the off-axis EIRP spectral density plots in Exhibit B, the Tampa Microwave terminals meet the performance requirements in Section 25.218 (i) under clear sky conditions. Additionally, each of these terminal types will be operated within the -118 dBW/m²/MHz power flux density at the earth's surface of the I5F2 and I5F3 satellite. Thus, the proposed terminals may operate without causing unacceptable interference, consistent with the requirements of Section 25.209(f).

The Commission has deleted the requirement to provide receive earth station patterns in the 19.7-20.2 GHz frequency band (see Sections 25.132 and 25.115). To the extent that the proposed terminal may have minor exceedance at certain off-axis angles, Inmarsat understands and agrees to accept interference from adjacent FSS satellite networks to the extent the relevant receiving antenna performance requirements of Section 25.209 are exceeded.

Radiation hazard analyses for the new terminals and a discussion of the results are provided in Exhibit C.

The proposed terminals will be subject to the same national security requirements described in Section 4 of the GX Land Application. That discussion is incorporated by reference herein. The following sections provide a description of each of the terminal types.

A. L3Harris DarkWing

L3Harris DarkWing is a small form factor, lightweight, flat-panel Very Small Aperture Terminal (VSAT) providing high-speed data communications for Internet, VPN connectivity and video transmission. The terminal has a 16.71 in. x 11.14 in. flat panel antenna and is designed to fit in a backpack or laptop-sized case for ease of transport and missions requiring inconspicuous travel. The 3 dB beamwidth is 1.4 degrees. The L3Harris DarkWing is shown as set up for use and in a laptop-sized carrying case below.



B. Gigasat ULV

The Gigasat ULV, manufactured by Ultra Electronics, utilizes a compact offset Gregorian antenna with an aperture size of 0.6 meters. The 3 dB beamwidth is 1.2 degrees. It is pictured as set up for use below.



C. Paradigm Hornet 100GX 950mp

The Paradigm Hornet 100GX 950mp utilizes a 10 watt BUC with a 100 cm diameter, 7-piece carbon fiber parabolic reflector, which provides maximum efficiency and optimum radiation characteristics for improved data throughput and availability. It deploys quickly and accurately without the need for tools. The 3 dB beamwidth is 0.8 degrees. The terminal as assembled and deployed is pictured below.



D. EMS Taipan

The EMS Taipan terminal utilizes a 48 cm parabolic reflector on a three-axis gimbal mount system. The 3 dB beamwidth is 1.6 degrees. The terminal is pictured outside its radome below.



E. Comtech RECON 1.3m

The Comtech RECON 1.3m terminal utilizes a 1.35 m diameter aluminum and carbon fiber parabolic reflector with an integral baseband folding tripod. The 3 dB beamwidth is 0.5 degrees. It is pictured as assembled outside of its carrying cases below.

