


APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
Inmarsat 30-day STA for C-band TT&C during LEOP for Inmarsat-5 F4

1. Applicant

Name:	Inmarsat Inc.	Phone Number:	202-248-5150
DBA Name:		Fax Number:	
Street:	1101 Connecticut Avenue, NW Suite 1200	E-Mail:	giselle.creaser@inmarsat.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20036
Attention:	Giselle Creaser		



GRANTED
International Bureau

File # SES-STA-20170420-00444
 Call Sign K2AS Grant Date 5-11-17
 (or other identifier)
 Term Dates From: 5-11-17 To: 6-11-17
 Approved: [Signature]

Applicant: Inmarsat Inc.
Call Sign: KA25
File No.: SES-STA-20170420-00444
Special Temporary Authority (STA)



File # SES-STA-20170420-00444
Call Sign KA25 Grant Date 5-4-17
(or other identifier)
Term Dates
From: 5-16-17 To: 6-11-17
Approved: Paul E. Hays

Inmarsat Inc. ("Inmarsat") is granted STA for 30 days to use its fixed earth station, Call Sign KA25, in Paumalu, Hawaii to provide launch and early orbit phase (LEOP) services and provide in-orbit testing (IOT) phase at near orbital location 83.5 degrees E.L. for the Inmarsat-5 F4 satellite. The final destination will be at orbital location 117.5 degrees E.L. The Inmarsat 5 F4 is expected to be launched on May 15, 2017. The following conditions are:

1. Inmarsat-5 F4 at LEOP operations will be performed on 5926.5 MHz and 6422.5 MHz uplink frequencies (Earth-to-space) (LH and CRH) and at 4199.0 MHz and 4199.5 MHz downlink frequencies (space-to-Earth) (LV and CLH).
2. The maximum uplink EIRP transmitted during the LEOP operations will be 89.0 dBW.
3. The minimum elevation angle for transmission will be at 10 degrees.
4. The LEOP operations must be coordinated with all operators of satellites that use the same frequency bands and are in the LEOP path. All operators of satellites in that path will be provided with an emergency phone number where the licensee can be reached in the event that harmful interference occurs. Currently the 24x7 contact information for the Inmarsat-5 F4 LEOP operations is as follows: Satellite Control Centre in London, Tel. +44 20 7728 1182.
5. All operations shall be on an unprotected and non-harmful interference basis, i.e., Intelsat shall not cause harmful interference to, and shall not claim protection from interference caused to it by, any other lawfully operating radiocommunication station and it shall cease transmission(s) immediately upon notice of such interference.
6. This grant does not constitute grant of U.S. market access to Inmarsat-5 F4 at any location.
7. Grant of this authorization is without prejudice to any determination that the Commission may make regarding any future pending applications.
8. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Inmarsat's own risk.

This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately.

2. Contact	
Name: Innmarsat Inc.	Phone Number: 202-248-5150
Company: 1101 Connecticut Avenue, NW	Fax Number:
Street: Suite 1200	E-Mail: giselle.creaser@innmarsat.com
City: Washington	State: DC
Country: USA	Zipcode: 20036
Attention:	Relationship:
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)	
3. Reference File Number or Submission ID	
4a. Is a fee submitted with this application?	
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).	
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee	
<input type="radio"/> Other (please explain):	
4b. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station	
5. Type Request	
<input type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other	
6. Requested Use Prior Date 05/12/2017	
7. CityPaumalu	
8. Latitude (dd mm ss.s h) 21 40 14.6 N	

9. State HI	10. Longitude (dd mm ss.s h) 158 2 3.1 E
11. Please supply any need attachments. Attachment 1: Narrative Attachment 2: Attachment 3:	
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.) Inmarsat Inc. requests STA for 30 days to use its 19-meter earth station antenna to allow C-band TT&C with the Inmarsat-5 F4 spacecraft during LEOP.	
13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; for these purposes. Yes <input checked="" type="radio"/> No <input type="radio"/>	
14. Name of Person Signing Giselle Creeser	15. Title of Person Signing Director, Regulatory
WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).	

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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

Application of)	
)	
Inmarsat Inc.)	Call Sign: KA25
)	
For Special Temporary Authority)	File No. SAT-STA-2017 _____
)	

APPLICATION FOR SPECIAL TEMPORARY AUTHORITY

Inmarsat Inc. (“Inmarsat”) hereby requests special temporary authority (“STA”) for thirty (30) days, beginning May 12, 2017, to use its 19-meter earth station antenna located in Paumalu, Hawaii and operated under Call Sign KA25 (the “19m Antenna”) to permit C-band telemetry, tracking, and control (“TT&C”) communications with the Inmarsat-5 F4 spacecraft during its Launch and Early Orbit Phases (“LEOP”).¹ 19m Antenna operations during this LEOP period would be within the envelope of the KA25 license technical parameters and would require only the addition of Inmarsat-5 F4 as a point of communication. Inmarsat and its affiliates will provide a network of ground stations around the globe that will provide communication with the spacecraft during the LEOP. The Inmarsat facility at Paumalu, Hawaii will form part of the Inmarsat ground station network for this launch support using the 19m Antenna.

The Inmarsat-5 F4 satellite is scheduled for launch on May 15, 2017. Inmarsat will be responsible for the technical aspects of the launch support, using the C-band portion of the satellite prior to its commercial operation. The mission control center will be located in Los Angeles, and all the mission operations will be conducted by Boeing under the direction of Inmarsat Global. It is expected that the 19m Antenna will be used intermittently during the first

¹ See 47 C.F.R. § 25.120(b)(4).

few days of support (typically 8-12 days) for limited periods when the spacecraft is visible from the Paumalu station.

Following the LEOP phase and before entering commercial service, Inmarsat-5 F4 will undergo an electrical propulsion orbit raising phase for 5-9 weeks followed by a one month in-orbit testing (“IOT”) phase both at or close to the geostationary location of 83.5E. At the end of IOT, the satellite will commence operational service at 117.5E. Once Inmarsat-5 F4 enters operational service, nominal on-station TT&C operations will be conducted in Ka-band from Perth and Merredin, Australia.

To be clear, Inmarsat Hawaii’s support to Inmarsat Global Ltd. using the Paumalu station and 19m Antenna will be limited to the LEOP portion of the mission only. Given the lack of visibility to the relevant orbital locations, no operations with Inmarsat-5 F4 will be possible from the Paumalu ground station when the satellite is undergoing electrical propulsion orbit raising, IOT, or once it becomes operational.

I. TO THE EXTENT APPLICABLE, GOOD CAUSE EXISTS FOR WAIVER OF CERTAIN PORTIONS OF SECTIONS 25.137 AND 25.114

Inmarsat provides the necessary legal and technical information to support this STA request and also requests certain waivers to permit communicate from the 19m Antenna to the Inmarsat-5 F4 spacecraft. Under FCC Rule 25.137, earth station applicants “requesting authority to communicate with a non-U.S. licensed space station” must submit the same technical information required by FCC Rule 25.114 for U.S.-licensed space stations and certain legal information.²

² 47 C.F.R. § 25.137.

Inmarsat seeks authority to support the needed TT&C during the LEOP of the Inmarsat-5 F4 spacecraft from shortly after launch to low-earth orbit. Inmarsat does not request authority to provide commercial service to the United States, and thus believes that Section 25.137 does not apply. However, to the extent the Commission determines that Inmarsat's request for authority to provide LEOP on a special temporary basis is a request to serve the United States with a non-U.S.-licensed satellite, Inmarsat respectfully requests a waiver of Sections 25.137 and 25.114 of the Commission's rules, to the extent it has not provided the information required herein.

The Commission may grant a waiver for good cause shown and is appropriate if special circumstances warrant a deviation from the general rule and such a deviation will serve the public interest.³ Here, good cause exists for waiver of portions of Section 25.114 requiring legal and technical information not relevant to the LEOP, such as antenna patterns, energy and propulsion and orbital debris. To the extent the information requirements of Rule 25.114 are relevant to the LEOP service, Inmarsat provides such information herein.

Good cause also exists to waive portions of Section 25.137, to the extent the information required is not herein provided. Section 25.137 is designed to ensure that "U.S.-licensed satellite systems have effective competitive opportunities to provide analogous services" in other countries.⁴ Here, there is no service being provided by the satellite; Inmarsat simply is providing TT&C while the satellite is in transfer orbit on the way to its final geostationary orbital location. Thus, the purpose of the information required by Section 25.137 is not implicated here. For example, Section 25.137(d) requires earth station applicants requesting authority to operate with

³ See 47 C.F.R. § 1.3; *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969), *cert. denied*, 409 U.S. 1027 (1972); *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990).

⁴ See 47 C.F.R. § 25.137.

a non-U.S.-licensed space station that is not in-orbit and operating to post a bond.⁵ The underlying purpose in having to post a bond – to prevent warehousing of orbital locations by operators seeking to serve the United States – is not a concern here.

Inmarsat seeks authority only to conduct LEOP support for Inmarsat-5 F4, which is licensed by the UK Space Agency and is a commercial communications satellite primarily supporting broadband data services to mobile users in the Indian Ocean region. As Inmarsat's 19m Antenna license demonstrates, Inmarsat has the requisite authority to perform the LEOP of the Inmarsat-5 F4 satellite, except for the point of communication. Moreover, Inmarsat will conduct the operations on an unprotected, non-interference basis.

Finally, Inmarsat notes that it expects to communicate with the Inmarsat-5 F4 satellite using the 19m Antenna pursuant to this STA for a maximum period of 12 days under nominal launch conditions. Requiring Inmarsat to provide technical and legal information, where there is no risk of interference and the operation is expected to cease within 12 days, is unnecessary and would pose undue hardship without serving underlying policy objectives. Given these particular facts, Inmarsat believes that the waiver sought herein is appropriate.

II. INFORMATION RELEVANT TO LEOP SUPPORT

Inmarsat provides the following technical parameters for informational purposes only. The operations contemplated in this request fall within the existing license parameters for the 19m Antenna.

⁵ See 47 C.F.R. § 25.137(d).

Earth Station Information

EARTH-to-SPACE:

Transmit Frequencies: 5926.5 MHz and 6422.5 MHz
Transmit Polarization: Linear Horizontal and Circular RH
Maximum EIRP: 89 dBW
RF Modulation: FM
Minimum Elevation for Transmission: 10 degrees

SPACE-to-EARTH:

Receive Frequencies: 4199.0 MHz and 4199.5 MHz
Receive Polarization: Linear Vertical and Circular LH
Maximum Spacecraft EIRP: 6 dBW within +/- 70 degrees
RF Modulation: PM
Azimuth Range: 360 degrees
Duration of Communications: three months from launch.

Space Station Coordination

Inmarsat maintains responsibility for the coordination of communications supporting the launch of the Inmarsat-5F4 spacecraft with existing spacecraft operators during LEOP and other operations. Inmarsat has undertaken coordination of communications for the support of the launch of Inmarsat-5 F4 with other spacecraft operators that may be potentially affected during LEOP.

If necessary, Inmarsat will review the need for coordination based on any changed circumstances that may occur. In accordance with normal industry practices, communications with other operators will be kept open in the period leading to and throughout the LEOP activities to ensure that the LEOP will be conducted on a non-interference basis.

III. CONCLUSION

For the foregoing reasons, Inmarsat respectfully requests STA for 30 days, beginning May 12, 2017, to use its 19m Antenna to permit C-band TT&C communications with the Inmarsat-5 F4 spacecraft during its LEOP phases. Grant of the requested STA serves the public interest by enabling Inmarsat to provide essential TT&C functions to the Inmarsat-5 F4 spacecraft consistent with the technical parameters of the 19m Antenna license and without creating any risk of harmful interference.

Respectfully submitted,

Inmarsat Inc.

By: Giselle Creeser

Giselle Creeser

Director, Regulatory

1101 Connecticut Ave. NW

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April 20, 2017