Globalstar Connect smarter

December 05, 2025

To,

Telecom Regulatory Authority of India
Advisor (Networks, Spectrum and Licensing - I)
adv-nsl1@trai.gov.in, ja2-nsl2@trai.gov.in

Attention: Shri Sameer Gupta

Subject: Submission by Globalstar, Inc. on the Consultation Paper No. 11/2025 on Review of Existing TRAI Regulations on Interconnection Matters

Dear Sir,

We have enclosed below the submission by Globalstar, Inc. on the Consultation Paper No. 11/2025 on **Review of existing TRAI Regulations on Interconnection** matters, specifically outlined under Section 3 of this document.

Thank you for giving us the opportunity to provide our comments on the consultation paper. We hope our submission will be considered and reflected in your recommendations.

Sincerely,

L. Barbee Ponder IV
General Counsel and
Vice President of Regulatory Affairs
Globalstar, Inc.

1. GLOBALSTAR, INC.

1.1. Globalstar, Inc. ("**Globalstar**") appreciates the opportunity to provide our submission in relation to the Consultation Paper No. 11/2025 on the Review of existing TRAI Regulations on Interconnection matters dated November 10, 2025, ("**Consultation Paper**") issued by the Telecom Regulatory Authority of India ("**TRAI**") for public comments.

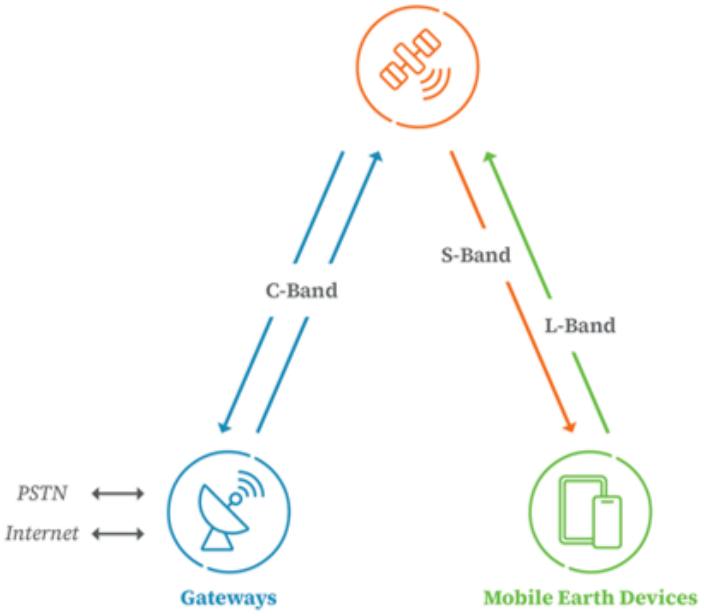
1.2. Globalstar is a US publicly traded company (NASDAQ: GSAT) duly registered in the State of Delaware. It owns and operates a Low Earth Orbit ("**LEO**") satellite system providing near global coverage, including India ("**Globalstar System**"). Founded in 1995, Globalstar has been providing mobile satellite services ("**MSS**") to the public for more than 20 years, having invested over US $5 billion in its satellite network and ground operations during this period.

1.3. The Globalstar System consists of three separate components: (i) a constellation of LEO satellites, properly notified to the International Telecommunications Union ("**ITU**"); (ii) a global network of 28 gateway Earth Stations located in 18 countries; and (iii) mobile devices and terminals operating over Globalstar's MSS network, including those used by over 760,000 of Globalstar's own end-user customers in over 120 countries worldwide to meet their communications needs.

1.4. As Globalstar grows its satellite communication business, it has embarked on a comprehensive global strategy to develop its direct presence and regulatory compliance in numerous countries around the world. Globalstar has incorporated its subsidiary in India, and it is Globalstar's hope that this consultation process results in TRAI providing appropriate and market-responsible recommendations to the Department of Telecommunications ("**DoT**") for instituting regulatory reforms for satellite networks that will enable and support the entry of Mobile Satellite Services into India, including from the perspective of bringing in ease and certainty of doing business in India for global companies.

2. THE GLOBALSTAR SYSTEM

2.1. Globalstar operates a "bent-pipe" system with its satellites relaying messages between a global network of ground stations and millions of mobile earth terminals.



Licensed FSS Spectrum	Licensed MSS Spectrum	
C-Band:	L-Band:	S-Band:
5091-5250 MHz 6875-7055 MHz	1610-1618.725 MHz*	2483.5-2500 MHz

*0.95 MHz shared with Iridium Satellite Communications

2.2. Globalstar's global MSS system supports reliable, essential services to consumers, public safety personnel, and enterprise customers covered by its network. Since initiating commercial MSS in 2000, Globalstar has focused on delivery of its MSS products and services to individual consumers and for the purpose of commercial industrial applications. Reflecting its strong emphasis on the retail consumer market, Globalstar's MSS devices are easy to use and have long provided consumers with inexpensive, life-saving services across many countries globally.

2.3. For many years, Globalstar has been dedicated to providing state-of-the-art, mission-critical, and safety-of-life services in remote, unserved, and underserved areas not reached by terrestrial deployments. Globalstar's MSS network provides critical back-up capabilities for public safety personnel during disasters, when terrestrial networks can be rendered inoperable. In situations where all terrestrial wireless facilities are down in an affected area, Globalstar's global MSS network will continue to function normally. Public safety entities involved in relief efforts around the world have relied on Globalstar's satellite services after earthquakes, hurricanes, and other disasters.

Over the past fifteen years, Globalstar has developed the affordable and innovative "SPOT" family of MSS devices, which have played a critical role in providing emergency and safety-of-life services to individual consumers beyond terrestrial wireless reach. SPOT products work virtually everywhere in the world, offering communication through satellite connectivity to hundreds of thousands of people who travel off the grid. In recent years, Globalstar's SPOT-X product has enabled two-way satellite communications, allowing, for example, remote workers to check-in and

provide detailed status of their situation when working at distant jobsites. Overall, as of date, the SPOT family of products is responsible for initiating over 10,000 emergency rescues via satellite in over 100 countries on six continents – often lifesaving, on land and at sea.

2.4. Globalstar has also developed an array of satellite IoT solutions for customers in a wide range of industries, including oil and gas, mining, construction, transportation, agriculture, emergency management, government, maritime, and commercial fishing. Globalstar's satellite IoT products allow enterprises to streamline their operations and intelligently manage, monitor, and track their mobile assets remotely via Globalstar's MSS network. Globalstar's commercial IoT products include its SmartOne asset tracking solutions and IoT satellite transmitters, which enable its customers to manage their remote assets utilizing motion sensors, comparative GPS positions, and custom-configured sensors. Globalstar complements its IoT devices with a centralized cloud-based platform that provides live or historical tracking of personnel, vehicles, and assets on-demand.

2.5. Globalstar provides wholesale B2B services to Apple to deliver transformational direct-to-device features for users of certain Apple devices, including iPhone 14 and newer devices as well as the Apple Watch Ultra 3. First introduced in November 2022, Apple's Emergency SOS via satellite feature allows users to initiate emergency communications through MSS transceivers contained in the supporting devices. As of the date of this submission, this satellite-enabled feature is available in the US, Canada, 12 European countries, Australia, New Zealand, and Japan. Emergency SOS via satellite has resulted in numerous lifesaving rescues, widely covered in press around the world. In 2024, Apple also introduced two-way messaging via satellite, allowing users in the United Sates, Canada, and Mexico to send messages via satellite to family and friends, including texts, SMS, emoji and tapbacks. These first commercially available direct-to-device satellite features have drawn a renewed focus on MSS spectrum, and the potential offered by satellite connectivity.

2.6. The availability of these direct-to-device satellite features along with other technological developments supporting the convergence of satellite and terrestrial services present substantial growth potential for MSS and resulting benefits for consumers and businesses adopting these services.

3. GLOBALSTAR'S SUBMISSION IN RESPECT OF THE SELECT ISSUES FOR THE CONSULTATION

3.1. ***Q34. What should be the interconnection framework for satellite-based telecommunications networks with other telecom networks? Further, whether the interconnection frameworks for MSS and FSS satellite-based telecommunications networks should be distinct? Please provide your response along with end-to-end diagrammatic representation and justification in respect of the following: a. Satellite - Satellite network interconnection, b. Satellite - PLMN interconnection, c. Satellite - PSTN interconnection.***

For the purpose of formulating interconnection-related regulations for satellite-based telecommunications, our para wise submissions are detailed below:

1. The existing interconnection requirements set out under the GMPCS licence conditions should serve as the guiding framework for the formulation of interconnection regulations.

1.1. Entities such as Globalstar intend to provide critical connectivity over their mobile satellite service networks, which will enable users to connect with public safety & emergency authorities in times of distress. These services play a vital role during emergencies and in remote areas where terrestrial networks are unavailable, facilitating communication with

emergency response agencies, healthcare authorities, relief organizations, and personal contacts.

1.2. In order to provide this critical mobile satellite connectivity, Globalstar intends to obtain the Global Mobile Personal Communication by Satellite ("**GMPCS**") license under the unified license framework ("**UL**") and will apply to the DoT for said purpose. The terms of the GMPCS license prescribe certain conditions on interconnection with other networks such as:

(a) direct interconnectivity between licensed GMPCS operator and any other telecom service provider is permitted for the purpose of only terminating traffic of each other.

(b) intimation to be given to the DoT within 15 days of establishing direct interconnectivity.

(c) interconnection shall be as per mutual agreement between the telecom service providers.

(d) interconnection shall have to be withdrawn in case of revocation of the respective licensed network of any telecom service providers within 1 hour or within such time as directed by DoT in writing, after receiving intimation from the DoT in this regard.

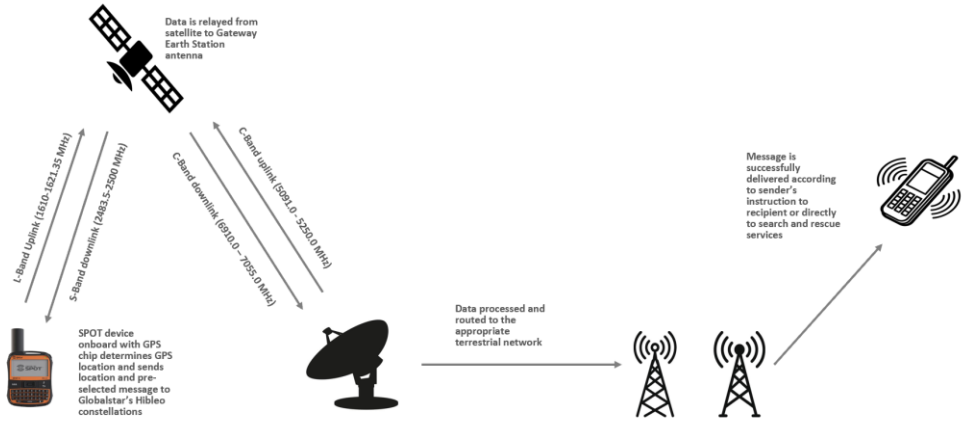
1.3. It is therefore evident from the above that the current GMPCS license conditions (under the UL framework) establish an appropriate and technologically assistive regulatory framework that provides for permissible modes of interconnection, incorporates safeguards through timely intimation requirements to the DoT, and preserves commercial flexibility by allowing telecom service providers to negotiate mutually agreeable interconnection arrangements. We hope and expect similar interconnection requirements will be available for GMPCS providers under the proposed authorization framework under the Telecom Act and the rules framed thereunder ("**Telecom Act**").

1.4. In this context, we submit our recommendation to TRAI to adopt the existing GMPCS interconnection principles as the foundational regulatory framework for governing interconnection between satellite networks and other telecom networks, to ensure consistency in the regulatory framework and promote ease of doing business in India.

2. TRAI should impose mandatory interconnection arrangements for critical emergency satellite services.

2.1. Globalstar's communication architecture involves the transmission of signals from a satellite-enabled device to Globalstar's satellite constellation and onward through associated land earth station gateways. Depending on the nature of the communication, particularly in the context of critical or emergency assistance, the communication may need to terminate on, or interconnect with, public switched telephone network ("**PSTN**") systems to reach emergency response agencies such as healthcare authorities, law enforcement agencies, fire safety authorities, etc. This seamless ability to route satellite-originated distress signals into terrestrial and PSTN networks is essential for the delivery of timely, reliable, and life-saving emergency satellite services.

For ease of reference, we have pictographically represented Globalstar's communication architecture below:



2.2. It is pertinent to note that the terms of the GMPCS license under the UL require the licensee to provide, either independently or through mutually agreed commercial arrangements with other telecom service providers, all public utility services as well as emergency services including toll free services like police, fire, ambulance. Further, while providing access to public utility / emergency services / emergency response services / services during disaster including police, fire, etc., it is necessary for the GMPCS licensee to ensure that such calls are delivered to the designated control room of the concerned authority, as prescribed from time to time.

2.3. Given that emergency satellite services rely on seamless routing of satellite-originated distress signals into terrestrial and PSTN networks, any delay or uncertainty in establishing interconnection agreements could materially impede the delivery of life-saving communications during critical situations.

2.4. Further, in light of the explicit obligations under the GMPCS licence to provide access to public utility and emergency services, it is essential that GMPCS operators are able to interconnect with terrestrial networks without having to engage in prolonged commercial negotiations with telecom providers, as their nature of access is not similar to ordinarily access requirements typical in the telecom sector.

Considering the above, we request that TRAI should consider requiring telecom service providers to ensure timely and non-discriminatory interconnection arrangements with licensed satellite telecommunication service providers for the provision of critical and emergency communications as ensuring such timely interconnection facility as a public-safety imperative.

2.5. Accordingly, we submit that TRAI should consider incorporating a defined timeline, such as a mandatory period within which interconnection agreements must be executed, along with a requirement that telecom service providers prioritise and expedite interconnection requests where such interconnection is necessary for critical emergency communications.

3. No financial disincentives must be imposed for satellite based critical emergency services.

3.1. We note that currently TRAI is empowered under the Telecommunication Interconnection Regulations, 2018 ("**Interconnection Regulation**") to impose financial disincentives on terrestrial telecom service providers for non-compliance of the Interconnection Regulation.

Specifically, Regulation 12 of the Interconnection Regulation (which is currently *sub-judice* before the Delhi High Court) empowers TRAI to levy a financial disincentive of up to INR 100,000 per day per licensed service area for contravention of the regulatory provisions, without prejudice to any penalties prescribed under the UL, the Telecom Regulatory Authority of India Act, 1997, or any rules, orders, or directions issued thereunder.

3.2. In the context of satellite emergency communication services, we request TRAI to consider that it must exercise particular caution in imposing any form of financial disincentives, as entities providing satellite-based emergency connectivity support critical public safety functions, especially in remote areas and during disaster-response situations where terrestrial networks are unavailable. Further, many such entities, at least entities with Globalstar engaged in MSS Services, aim to provide such facilities at nominal rates, if charged at all. Imposing such disincentives may deter these entities from investing in, expanding, or maintaining the satellite infrastructure and service capabilities required for uninterrupted emergency communications.

Accordingly, we submit that TRAI should refrain from imposing any financial disincentives in relation to interconnection on entities offering satellite-based emergency communication services, and appropriate clarification / exemption / carve-out in this regard should be incorporated in its recommendations following the Consultation Paper.

4. No interconnection usage charges should be mandated for satellite based critical emergency services.

4.1. The TRAI, through the Telecommunication Interconnection Usage Charges Regulations, 2003, ("**IUC Regulation**") established a regulatory framework for interconnection usage charges ("**IUC**") to be charged for terrestrial telecommunication services. The main objective of this regulation was to prescribe a framework for sharing of revenues between originating, transit, and terminating networks. The IUC Regulations introduced an element-based charging methodology, wherein various charges were individually prescribed in detailed schedules attached to the IUC Regulations which includes origination charges, transit charges, carriage charges, transit carriage charges, termination charges, and international termination charges. The IUC Regulations are primarily structured to address commercial voice traffic.

4.2. However, due to the distinct nature of critical emergency services through satellite, in our view, TRAI is advised to differentiate such satellite services from the conventional IUC framework and expressly mandate free-of-cost IUC for such satellite communications. Satellite emergency communication services are not commercial traffic in the traditional sense, rather they are critical public safety functions, which are often activated during natural disasters or in geographically remote regions where terrestrial infrastructure is not available. Further, multiple providers especially MSS providers like Globalstar offer these services at nominal or no cost.

4.3. Therefore, there are multiple benefits of mandating free-of-cost IUC for such emergency communications, including:

(a) uninterrupted and unimpeded access to emergency satellite connectivity during crises without the risk of operators deprioritising or restricting traffic due to cost considerations.

(b) removal of financial barriers that could disincentivise satellite operators from establishing robust, resilient interconnection with terrestrial networks.

(c) promotion of public interest, as emergency communications should not be burdened with commercial charging frameworks originally devised for traditional terrestrial telecommunication services.

4.4. Accordingly, we submit that satellite-based emergency communications should be exempted from any IUC, considering its unique role in safeguarding life and public safety. An enablement and/or clarification in this regard should be expressly provided for under TRAI's recommendations to the Consultation Paper.

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