



**Telecom Regulatory Authority of India**



**Recommendations on  
Provisioning of INMARSAT / Satellite Phone services**

**New Delhi, 12<sup>th</sup> May, 2014**

**Mahanagar Door Sanchar Bhawan, Jawahar Lal Nehru Marg,  
New Delhi - 110002**

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## **PROVISIONING OF INMARSAT / SATELLITE PHONE SERVICES**

- 1.1 The Department of Telecommunications (DoT) through its letter no. 800-87/2010-CS-I dated 13<sup>th</sup> December 2013 has requested the Authority for its recommendation under section 11(1)(a) of TRAI Act on the appropriateness and feasibility of including 'INMARSAT Services'–

Under Unified License 'Global Mobile Personal Communication by Satellite (GMPCS)' Authorization (Chapter XII)

Or

Framing of another Authorization (New Chapter) under the  
Unified License **(Annexure)**

- 1.2 To fully understand the issues involved in the reference of the DoT, on 8<sup>th</sup> January, 2014, the Authority sought background information about INMARSAT services in the country from the DoT under 3<sup>rd</sup> proviso of section 11(1) of TRAI Act. The DoT provided certain information on 3<sup>rd</sup> February 2014. It also informed the Authority that the DoT has also accorded in-principle approval to BSNL for setting up of a GMPCS Gateway with financial support from Universal Service Obligation (USO) Fund.
- 1.3 Accordingly, the Authority sought further details from BSNL on the issue. The Authority also held meetings with the concerned stakeholders viz. M/s Tata Communications Ltd. (TCL), Bharat Sanchar Nigam Ltd. (BSNL) and M/s INMARSAT on the issue.
- 1.4 Currently, the INMARSAT services are mainly used for
- a. Maritime Communications including 'Global Maritime Distress and Safety System' (Distress Alerts for Sea Vessals)
  - b. As land mobile ( on the basis of case to case clearances) for
    - i. Rescue Operations during any disaster (e.g. in Uttarakhand, AP, Orissa)
    - ii. Combat Operations (by security forces and paramilitary forces)

Keeping in view the security interests of the country and attendant urgency of the issue, the Authority has held consultation with the concerned stakeholders only.

- 1.5 Based on the inputs provided by the stakeholders and its own analysis, the Authority has formulated its recommendations.

## **Background**

### **Satellite Communication**

- 1.6 Satellites provide telephone and broadcasting services, covering large geographical areas. A satellite-based communication system provides an ideal solution for connecting remote and inaccessible areas as no ground infrastructure in the concerned area is required. In addition, satellite communication is widely used for the transmission of emergency traffic, such as distress and safety messages, to and from vessels at sea or remote locations.
- 1.7 Presently, in India, the satellite services of INMARSAT are used by maritime users through the Tata Communications Ltd (TCL) under its ILD licence. Some limited number of users of land mobile have also been permitted by the DoT on a case-to-case basis.

### **Evolution of INMARSAT Services in India**

#### **INMARSAT as an organization.**

- 1.8 The assembly of the inter-Government Maritime Consultative Organization passed a resolution in November 1973 to convene an international conference to decide on the principle of setting up an International Maritime Satellite System. Pursuant to this decision, an International Conference on the establishment of an International Maritime Satellite System was convened in London on 23 April, 1975. In the third session of this Conference held in September, 1976, it was decided to form the International Maritime Organisation (IMO), under the aegis of UNO for the purpose of establishing a satellite communications network for the maritime community. The IMO established INMARSAT in 1979 which

originally stands for International Maritime Satellite Organisation. The name was later changed to "International Mobile Satellite Organization" when it began to provide services to aircraft and portable users, but the acronym "INMARSAT" was retained.

- 1.9 India was a founding member of INMARSAT and M/s Overseas Communication Service (OCS) had set up a Gateway at Arvi, Pune for the INMARSAT satellite terminals. These services were primarily used for maritime communication purposes. As the INMARSAT gateway was available in the country, INMARSAT satellite terminals were also allowed for land-based use for certain specific purposes in a restricted manner. In March, 1986, OCS was converted into VSNL (Videsh Sanchar Nigam Limited).
- 1.10 After privatization of VSNL in 2002, it was renamed as M/s Tata Communications Ltd. (TCL). TCL/VSNL was given the ILD license with a provision to provide INMARSAT services (except Land Mobile Service) on as-is-where-is basis. However, M/s TCL is also providing Land Mobile services using INMARSAT-B, INMARSAT-C, INMARSAT-M, Mini-M & M-4 terminals to certain organizations after obtaining NOC on a case-to-case basis from the DoT. The details of INMARSAT terminals and guidelines/policy for issue of NOC for these specific types of terminals are available in Annexure (enclosure of the DoT reference). These INMARSAT services are being provided by TCL through their Land Earth Station (Gateway) at Arvi (Pune).
- 1.11 The INMARSAT provides its satellite services with a constellation of four satellites which are located in the Geo-stationary earth orbit. These constellations of satellites provide global coverage. The present constellation, namely, I-3 satellites were launched in 1996.
- 1.12 In view of the aging of these satellites, the INMARSAT has announced the retirement of some of its services from these old satellites starting from September 2014 (Table-A). INMARSAT has launched the next generation satellites services viz. INMARSAT satellite Phone 'IsatPhone pro' and Broadband Global Area Network

(BGAN) through their new satellite constellation. The present status of the terminals being served by M/s TCL for maritime use and land mobile (having issued the NOC by the DoT) is given below:

**Table-A: Active Land mobile terminals working in TCL**

Name of terminal	Number of users as on 31 <sup>st</sup> Dec, 2013	Type of users	Retirement date
Mini-M	1358	Defence, MHA, MEA, some Divisional commissioners of border and hilly districts, Department of disaster management, IB, Department of Space, NIA, paramilitary forces and state police etc.	30 <sup>th</sup> Sept'14
M-4 (GAN) Terminal	152	Chattisgrh police, AIR, Army, Navy, NSG	30 <sup>th</sup> Sept'14
M-terminal	21	Few corporates (HSBC,MITSU,Abhishek Industries), Medicine Sans Frontiers, Navy, Railways	31 <sup>st</sup> Dec'14
B-terminal	1	Navy	31 <sup>st</sup> Dec'14
<b>Total</b>	<b>1532</b>		

Source: TCL vide its e-mail dated 27<sup>th</sup> January, 2014.

1.13 As discussed earlier, one of the main responsibility of INMARSAT is to provide maritime communication including the Global Maritime Distress and Safety System (GMDSS). GMDSS is an internationally agreed set of safety procedures and communication protocols used to increase safety and make it easier to rescue distressed ships.

1.14 The GMDSS provides that every ship, while at sea, shall be able to perform the following nine basic communication functions<sup>1</sup>:

- (i) transmitting ship-to-shore distress alerts (by at least two separate and independent methods);
- (ii) receiving shore-to-ship distress alerts;

<sup>1</sup> Source: International Mobile Satellite Organization (IMSO)

- (iii) transmitting and receiving ship-to-ship distress alerts;
- (iv) transmitting and receiving search and rescue co-ordinating communications;
- (v) transmitting and receiving on-scene communications;
- (vi) transmitting and receiving signals for locating;
- (vii) transmitting and receiving maritime safety information;
- (viii) transmitting and receiving general communications; and
- (ix) transmitting and receiving bridge-to-bridge communications

**Table-B: Terminals served by TCL for GMDSS for maritime community**

Name of Terminal	Number of users	Remarks	Retirement date
B-terminal	984	GMDSS compliant	31st Dec'14
C-terminal	1104	This is GMDSS equipment and mandatory for ships.	No retirement declared date as yet
Fleet-77 terminals	1325	GMDSS compliant	No retirement date declared as yet
Fleet-33/55 terminals	730	No GMDSS, no retirement date	No retirement date declared as yet
Total	4143		

Source: TCL vide its e-mail dated 11<sup>th</sup> February, 2014.

## Introduction of GMPCS License

1.15 While the INMARSAT services cater to maritime communication, the Govt. of India envisaged satellite services, namely, Global Mobile Personal Communication by Satellite (GMPCS) in the new telecom policy 1999. The Government introduced GMPCS service (satellite Telephone Service) in the country on non-exclusive basis in the year 2001, subject to the clearance of the specific proposal from security angle by an Inter-Ministerial Committee consisting of Secretaries from Ministry of Home Affairs, Ministry of Defence, Department of Space, Department of Telecommunications, Cabinet Secretariat (R) and Director, IB. Detailed guidelines for the provision of Satellite

Telephone Services in the country were issued by the DoT on 1<sup>st</sup> November, 2001. Under this license, satellite based communication services were permitted. The satellite could be Low Earth Orbit (LEO), Medium Earth Orbit (MEO) or Geostationary Orbit (GSO). However, establishment of GMPCS Gateway in India by the licensee was a mandatory license condition.

- 1.16 After the issue of guidelines for GMPCS licence in the year 2001, the DoT received a number of proposals from various satellite operators, namely, INMARSAT, Iridium, Thuraya, Globalstar, etc. for grant of GMPCS license. However, no operator has established GMPCS Gateway, so far, in the country. As a result, currently, there is no GMPCS licensee in the country.
- 1.17 The main reason why the companies were not able to obtain the GMPCS license and establish the gateway in the country was that the technical requirements prescribed in the license agreement for establishing a gateway required substantial financial expenditure which was not feasible to be recovered from the limited number of users. Moreover, in the country, the call charges for satellite telephone service are comparatively much higher than the landline/cellular services.
- 1.18 On account of the above mentioned constraints, it was decided by the Government that the urgent requirement of Central Para-Military Forces/State Police forces for use of satellite telephone service can be met through direct procurement of satellite terminals by these agencies themselves. However, for grant of frequency assignment and import license by WPC Wing of the DoT, the request is to be forwarded through designated representative from Ministry of Home Affairs (MHA)<sup>2</sup>.
- 1.19 Based on the above decision, MHA/Security Agencies are procuring the INMARSAT BGAN/ISAT phones directly from various handset /equipment suppliers. Jt. Secretary (Naxalite Mgmt.) has been designated as the authorised representative by MHA for

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<sup>2</sup> As per Annexure-V of DoT's letter dated 3<sup>rd</sup> February, 2014.



forwarding the requests to WPC Wing for frequency authorisation/import licenses. MHA further decided vide their letter dated 18<sup>th</sup> June, 2013 that for the procurement of satellite terminals/phones, for disaster related communication requirements of National Disaster Response Force (NDRF) and State Disaster Response Force (SDRF), Jt. Secretary (Disaster Management) will be the designated representative.

1.20 Apparently, the permission to procure the INMARSAT handsets and taking services from a foreign service provider was given to meet the requirement of paramilitary forces and disaster management due to the following:

- (i) Next generation handsets are handy and easy to use.
- (ii) Immediate requirements of paramilitary forces are met.
- (iii) No Gateway is required to be set up in the country.

1.21 By procurement of satellite telephones as mentioned above, the telecom facility can be instantly provided without installing any infrastructure in disaster affected areas including remote, inaccessible and hilly terrains of the country where no other means of communication is available. It is not out of place to mention that 105 such satellite phones/terminals have recently been used in Uttarakhand for providing instant communication service to the disaster affected areas.

1.22 However, there are following limitations & drawbacks for such an arrangement:

- (i) Possibility of monitoring of calls outside the country as the Satellite Land Earth Station (Gateway) is located outside the country.
- (ii) Non-availability of legal interception & monitoring of calls by Law Enforcement Agencies (LEA) in the country.
- (iii) The arrangement is not as per the regulatory requirements of the country. The telecommunication service(s) in the country can be provided only by telecom operators granted a license

under section 4 of the Indian Telegraph Act 1885 and Indian Wireless Telegraphy Act, 1933. However, the above mentioned satellite based telecommunication services are being provided by foreign operators not having any valid license in the country.

(iv) Quality of Service (QoS) or any other control mechanism cannot be ensured.

(v) No license fee accrues to the exchequer as the services are directly being provided by a foreign satellite operator.

(vi) Call rate (typically US\$ 1 per minute) is very high compared to normal mobile services. Further, INMARSAT has been allocated a numbering plan and the calls made to these levels are considered international calls.

1.23 In view of the above drawbacks, the Defence forces have not procured these handsets. They are continuing to use the old terminals. However, as declared by the INMARSAT, some of these old terminals will cease to be supported by their satellites from September 2014. It is understood that Defence Ministry has been urging the DoT/ BSNL to expedite the installation of a new Gateway to meet their requirement before these phones stop functioning due to retirement of these services from INMARSAT's old satellites.

1.24 On 17<sup>th</sup> July 2009, the existing INMARSAT service provider M/s TCL, applied for GMPCS licence informing the DoT that it is possible for TCL to offer the latest INMARSAT services and support new developments. In response, the DoT sought technical details of network architecture and information, regarding compliance to the security conditions laid out in the Licence (41.1 to 41.8). M/s TCL through its letter dated 27<sup>th</sup> October 2009 informed the DoT about their solution called 'Forced Call Routing'

- i. Offers similar possibilities for interception and control as a local Land Earth Station
- ii. Calls are monitorable
- iii. Supports Denial of Service to unauthorised terminals

- 1.25 In November 2011, the DoT informed TCL that it will not be possible to process the case as the proposal of TCL does not meet the basic requirement of setting up of GMPCS Gateway in India. It is pertinent to mention that earlier in November 2009, the DoT had directed M/s TCL to refrain from marketing/ importing/ processing of BGAN sets (of INMARSAT) in India as it did not has a valid licence from the DoT.
- 1.26 Since no other operator was able to establish a gateway in India, the DoT (after due deliberation) asked BSNL on 23<sup>rd</sup> December 2010, to examine the possibility of establishing a GMPCS Gateway with INMARSAT or any other Satellite Operator for provision of satellite telephone service in the country.
- 1.27 In response, BSNL vide its letter dated 10<sup>th</sup> July 2012 sought budgetary support of US\$ 8 million from the DoT to establish GMPCS Gateway. It also requested the DoT for waiver of entry fee of Rs. 1 Crore, processing fee of Rs. 5 lakhs and Performance Bank Guarantee (PBG) of Rs. 1 Crore for GMPCS licence. BSNL also conveyed to the DoT that INMARSAT has agreed to work with BSNL as a primary service provider for these services. It signed a Memorandum of Understanding (MoU) with INMARSAT in October 2012 to establish and provide INMARSAT based services.
- 1.28 The DoT conveyed in-principle approval to establish GMPCS Gateway to provide satellite telephone service with financial support from USO Fund to BSNL vide letter dated 2<sup>nd</sup> November, 2012 and also asked BSNL to submit a detailed project report (DPR) and to apply for GMPCS license. In the meantime INMARSAT wrote to the DoT vide its letter dated 17<sup>th</sup> August, 2012 that INMARSAT has been providing personal mobile satellite services for many years in India and around the world and **nowhere have these services been classified as GMPCS (Global Mobile Personal Communication by Satellite).**
- 1.29 Regarding the no objection certificate (NOC) for the use of INMARSAT terminals to BSNL, DoT vide its letter dated 29<sup>th</sup> Jan

2013 informed BSNL that as per the existing policy, the DoT issues NOC for the use of only specific type of INMARSAT terminals (B, C, M, mini-M and M4). For other types of satellite phone terminals NOC is not being issued as there is no licensed service provider for the same.

- 1.30 On 24<sup>th</sup> June 2013, BSNL informed the DoT that it does not propose to obtain GMPCS license, but to use INMARSAT services which are more suited for operation of Sat Phones/Data terminal particularly for disaster management and maritime applications. BSNL also stated that INMARSAT has indicated to BSNL that INMARSAT does not operate under GMPCS licence anywhere in the world and the same was also informed to the DoT by INMARSAT. It also informed DoT in September 2013, that INMARSAT has informed BSNL that it would not be able to sign an agreement with BSNL based on the GMPCS policy and license conditions.
- 1.31 BSNL requested the DoT that it should be permitted to provide all the services offered by INMARSAT with a Gateway earth station in India. It also indicated that it will expeditiously complete setting up INMARSAT Gateway and start the service once a capital grant to carry out the project on a turnkey basis is conveyed by the DoT.
- 1.32 After the announcement of the Guidelines for grant of Unified License on 19<sup>th</sup> August, 2013, the older GMPCS Guidelines of the year 2001 have been superseded. Since 19<sup>th</sup> August, 2013, GMPCS Authorisation can be obtained under Chapter XII of Unified License. Therefore, currently, the INMARSAT services in India can operate under two different categories
- i. INMARSAT terminals (except Land Mobile Service) permitted to M/s TCL (due to legacy).
  - ii. Land Mobile sat phone service covered under Chapter XII of Unified License.
- 1.33 The DoT in its reference letter has informed TRAI that the INMARSAT services are not being operated as GMPCS services in

other countries and the INMARSAT services are usually classified by national regulators in a category befitting its unique role and mostly INMARSAT services are regulated as a `sui generis' category, simply as `INMARSAT Services'.

- 1.34 The DoT has mentioned that all satellite-based systems are proprietary in nature and are intended to be covered within the scope of the GMPCS authorisation (chapter-XII) under the Unified license. Further, as per the International Treaty, as on date, only INMARSAT Organisation has been mandated to provide Global Maritime Distress and Safety System (GMDSS) services for maritime applications. **These services may be provided as per the provisions contained in clause 4.4 of chapter XII of Unified license.**
- 1.35 Due to INMARSAT's disagreement to provide its services under GMPCS licence/Authorisation through BSNL, the current reference has been made to the Authority, wherein the DoT is seeking appropriateness and feasibility of including the 'INMARSAT' services under Unified Licence.
- 1.36 It is pertinent to note that the INMARSAT services are currently offered by TCL under its ILD licence. As per the clause 2.2.(a) of ILD licence agreement of TCL (ie. erstwhile M/s VSNL) , *“.....ILD service provider will provide bearer services so that end to end teleservices such as voice, data, fax, video and multimedia etc can be provided by access providers to the customers. Except “Global Mobile Personal Communication Service (GMPCS) including through INMARSAT” for which a separate licence is required, other listed services at appendix are permitted to the licensee. However, the licensee being the incumbent operator and the signatory for the India in erstwhile INMARSAT IGO (Inter Governmental Organisation) had been offering INMARSAT services (except land mobile), ICO and Iridium Gateway services which are already established and duly permitted by the licensor which the licensee shall continue to provide these in future without disruption.”*

1.37 Though INMARSAT services required a separate licence, the above mentioned arrangement was included by the DoT in the ILD licence agreement to M/s VSNL, as the company as an incumbent operator was providing the INMARSAT services. It may be noted that the above clause excludes 'land mobile' services.

### **Retirement of some INMARSAT terminals**

1.38 Even after the announcement of retirement of INMARSAT-B, INMARSAT-M, Mini-M Terminals (M & Mini-M are for land use and INMARSAT-B for GMDSS), other terminals being used by Maritime community viz. INMARSAT-C and fleet-33/55/77 terminals will continue to operate till the end of TCL license (31<sup>st</sup> March, 2022). In this reference M/s TCL has informed the DoT that:

- a. IMO recognizes three terminals as GMDSS compliant, namely, INMARSAT-C, INMARSAT-B and Fleet-77 which are all available from M/s TCL Pune LES
- b. Out of these, INMARSAT-B is getting phased out during this year 2014 while there is no retirement announcement for INMARSAT C & Fleet-77 till date
- c. INMARSAT ISAT or Fleet broadband are not GMDSS certified which means that new gateway being envisaged will be GMDSS services compliant only if it is also equipped to support INMARSAT-C or Fleet-77 services
- d. M/s TCL gateway is currently providing both INMARSAT-C as well as Fleet-77 services from its gateway and the Indian Shipping community is already being served for distress services(GMDSS) via TCL LES Pune.

## Analysis

1.39 In view of the background information given above, the whole issue can be summarised as below:

- (i) Presently, the satellite phones are used in the country for land mobile communication by primarily defence and the paramilitary forces.
- (ii) The GMDSS service and some land mobile service through satellite are being provided by M/s TCL through the INMARSAT satellite constellation I-3. The land mobile service which is being provided by M/s TCL is only for old terminals viz. Mini-M, M4 (GAN) Terminal, M-terminal and B-terminal which will cease to be operational starting from September 2014. These terminals apart from being using old technologies are big and heavy and are not suitable for mobile usage. TCL earth station does not support the next generation phones viz. INMARSAT BGAN/ISAT phones which are favoured by the security forces as they are small in size and have additional features like data downloading, GPS, etc.
- (iii) In November, 2011, the DoT had rejected M/s TCL's application for GMPCS license as the technological solution given by M/s TCL for interception and control was not accepted.
- (iv) As early as December 2010, the DoT had asked BSNL to establish a GMPCS gateway with any satellite operator for provision of satellite telephone services in the country and had given in-principle approval for financial support from USO Fund.
- (v) BSNL has entered into an MOU with INMARSAT for providing satellite services. However, INMARSAT is not willing to provide the satellite services to BSNL under GMPCS license.
- (vi) Some of the paramilitary forces are using next generation handsets for satellite services which have been supplied by foreign satellite operators. Thus, there is a possibility of

monitoring of their communication by foreign agencies as their gateways are located outside the country. Moreover, the service being provided through these terminals is illegal as the foreign operator who has provided these terminals does not have any valid license in the country. Because of these reasons, defence has not opted for satellite phones from the foreign operators and they and other security agencies have been demanding for a long time for establishment of a new gateway in the country which can support new generation handsets for land mobile connections. Starting September 2014, their present terminals will progressively become non-operative.

- (vii) Now, after four years of knowing about the problem, the DoT has referred the matter to the Authority for recommendation on the appropriateness and feasibility of including 'INMARSAT services'-

Under Unified License GMPCS Authorization  
(Chapter XII)

Or

Framing of another Authorization (New Chapter)  
under the Unified License

- 1.40 In the given circumstances, there is an urgent need for setting up of a state-of-art gateway catered to the requirement of defence and security forces due to the retirement of some of the services by INMARSAT. The defence and security forces will not be able to use their present satellite phones for strategic purposes and during emergencies after December 2014. The Authority is of the opinion that as the DoT has already given in-principle approval to BSNL to establish such a gateway in India with its financial support and BSNL has already signed MOU with INMARSAT as its technology partner, BSNL may be authorised to immediately install the gateway. Since BSNL is a 100% Government owned PSU and the



requirement of satellite communication is primarily for the strategic and emergency purposes and in view of the fact that INMARSAT is not willing to support BSNL, in case BSNL takes GMPCS authorisation under unified licence, BSNL may be authorised to establish gateway under '*sui generis*' category as was done earlier for VSNL/TCL.

1.41 Regarding request of BSNL for waiver of entry fee, processing charges and PBG, the DoT may consider the request as the DoT has asked BSNL to install the required Gateway. However, Annual License Fee @8% of Adjusted Gross Revenue(AGR) for these services may be levied on BSNL, as per the existing license fee regime.

1.42 Therefore, the Authority recommends that:

**(a) The DoT may authorise BSNL to establish Gateway immediately under '*sui generis*' category.**

**(b) The DoT may consider the request of BSNL for waiver of entry fee, processing fee and PBG for such authorisation;**

**(c) Licence fee @8% of AGR may be levied for such services**

1.43 **In view of the above recommendations there does not seem any necessity to modify the existing Unified Licence.**

## List of Abbreviations used

Sr. No.	Acronym	Description
1.	AGR	Adjusted Gross Revenue
2.	AIR	All India Radio
3.	BGAN	Broadband Global Area Network
4.	BSNL	Bharat Sanchar Nigam Ltd.
5.	DoT	Department of Telecommunication
6.	DPR	Detail Project Report
7.	GMDSS	Global Maritime Distress and Safety System
8.	GMPCS	Global Mobile Personal Communication by Satellite
9.	GSO	Geostationary Orbit
10.	IB	Intelligence Bureau
11.	IGO	Inter Governmental Organisation
12.	ILD	International Long Distance
13.	IMO	International Maritime Organisation
14.	IMSO	International Maritime Satellite Organisation
15.	INMARSAT	International Mobile Satellite Organization
16.	LEA	Law Enforcement Agencies
17.	LEO	Low Earth Orbit
18.	LES	Land Earth Station
19.	MEA	Ministry of External Affairs
20.	MEO	Medium Earth Orbit
21.	MHA	Ministry of Home Affairs
22.	MoU	Memorandum Of Understanding
23.	NDRF	National Disaster Response Force
24.	NIA	National Investigating Agency
25.	NOC	No Objection Certificate
26.	NSG	National Security Guard
27.	OCS	Overseas Communication Service
28.	PBG	Performance Bank Guarantee
29.	PSU	Public Sector Unit
30.	QoS	Quality of Service
31.	SDRF	State Disaster Response Force
32.	TCL	Tata Communications Ltd.
33.	USO	Universal Service Obligation
34.	VSNL	Videsh Sanchar Nigam Limited
35.	WPC	Wireless Planning and Coordination

Government of India  
Ministry of Communication and IT  
Department of Telecommunications  
20, Sanchar Bhawan, Ashok Road, New Delhi-110001  
(Carrier Services Cell)

No. 800-87/2010-CS-I

Date 13.12.2013

To

The Secretary,  
Telecom Regulatory Authority of India,  
New Delhi,

**Sub: Provisioning of Inmarsat/Satellite Phone services.**

13/12/13

The erstwhile M/s Overseas Communication Services (OCS) had set up a Gateway for the Inmarsat satellite terminals being provided by Inmarsat. These services were primarily used for maritime communication purposes. As the Inmarsat gateway was available in the country, Inmarsat satellite terminals were also allowed for land based use for certain specific purposes also in a restricted manner.

2. OCS was converted into VSNL in March, 1986. Later VSNL was renamed as M/s Tata Communications Ltd. (TCL) after privatisation of the company in 2002.
3. VSNL on privatisation, obtained ILD license with a provision to provide Inmarsat services (except LAND Mobile Service) on as is where is basis. M/s TCL (erstwhile VSNL) is now providing INMARSAT-B, C, M, Mini-M & M-4 terminals after grant of NOC on case by case basis by DoT. The guidelines/policy for issue of NOC for these specific types of terminals is placed as **Annexure-1**. These INMARSAT services are being provided through their Land Earth Station (Gateway) now being maintained by M/s TCL at Arvi (Pune).
4. The detailed guidelines and license agreement for provision of Satellite Telephone Services in the country was issued in 2001 based on TRAI recommendations on Introduction of Global Mobile Personal Communication by Satellite (GMPCS) service in the country. Under this license, the satellite based communication was permitted. The satellite could be Low Earth Orbit (LEO), Medium Earth Orbit (MEO) or Geostationary Orbit (GSO). Establishment of GMPCS Gateway in India was mandatory as per license conditions.
5. It is worthwhile to mention that after finalization of GMPCS policy in the year 2001, DoT received various proposals from different satellite operators, namely, Inmarsat, Iridium, Thuraya, Globalstar, etc. for grant of GMPCS license. However, since no operator has been able to establish GMPCS gateway, so far, there is no GMPCS licensee in the country.

6. M/s Tata Communication Ltd. has intimated that some of the Inmarsat services would be reaching their end-of-cycle (retired) as per details given below:

Name of terminal	Retirement date
Mini-M	30 <sup>th</sup> September, 2014
M-4 (GAN) Terminal	30 <sup>th</sup> September, 2014
M-terminal	31 <sup>st</sup> December, 2014
B-terminal	31 <sup>st</sup> December, 2014
C-terminal	31 <sup>st</sup> December, 2016
Fleet-33/55/77 terminals for maritime subscribers	31 <sup>st</sup> December, 2016

These services are being utilised by the users as per the list at **Annexure-2**. Many of the users have been showing urgent need for these services including newer services like Inmarsat BGAN/I-SAT phones.

7. After the announcement of the Guidelines for grant of Unified License on 19<sup>th</sup> Aug, 2013, the older GMPCS Guidelines of the year 2001 are superseded. From 19<sup>th</sup> Aug, 2013, GMPCS Authorisation can be obtained under Chapter XII of Unified License. Therefore, at this stage, the Inmarsat services in India could be operated under two different categories-

- (I) Inmarsat terminals (except LAND Mobile Service) permitted to M/s TCL (due to legacy).
- (II) LAND Mobile sat phone service covered under Chapter XII of Unified License.

8. Some of the relevant provisions of UL (Chapter XII) are as follows:

- (i) Scope of the GMPCS Service:

*"2.1 The licensee may provide, in its area of operation, all types of mobile services including voice and non-voice messages, data services by establishing GMPCS Gateway utilizing any type of network equipment including circuit and/or packet switches.*

*2.2 The Licensee shall establish Land Earth Station Gateway in India for the purpose of providing Global Mobile Personal Communication by Satellite (GMPCS) Service. GMPCS Service may be provided using one or more Satellite Systems provided that the Land Earth Station Gateway Switch is established separately in India for each Satellite System." (beside this there are elaborate security conditions under clause 7 of the chapter)*

- (ii) GMPCS system is defined as - "any satellite system (i.e. fixed or mobile, broad-band or narrow-band, global or regional, geo-stationary or non geo-stationary, existing or planned) providing telecommunication services directly to end users from a single or constellation of satellites"



(iii) Direct inter-connectivity between licensed GMPCS operators and any other telecom service provider is permitted..... (Clause 4.3, Ch.XII of UL)

(iv) The licensee shall provide independently or through mutually agreed commercial arrangements with other telecom service providers all public utility services as well as Emergency services.....

(Clause 4.4, Ch.XII of UL)

9. DoT has been informed that Inmarsat would not be able to extend these services under GMPCS category under a License. It has been intimated that the Inmarsat services are not being operated as GMPCS Services in other countries and the Inmarsat services are usually classified by national regulators in a category befitting its unique role and mostly Inmarsat services are regulated in a 'sui-generis' category, simply as 'Inmarsat Services'.

10. It is worthwhile to mention that all the satellite based systems are proprietary in nature and are intended to be covered within the scope of the GMPCS authorisation (chapter-XII) under the Unified license. Further, as per International treaty, as on date, only Inmarsat Organisation has been mandated to provide Global Maritime Distress and Safety System (GMDSS) services for maritime applications. These services may be provided as per the provisions contained in clause 4.4 of chapter XII of Unified License as indicated in para 9 above.

11. Therefore, in view of above, TRAI is requested to make recommendations under Section 11(1)(a) of the TRAI Act on the appropriateness and feasibility of including the 'Inmarsat Services'-

(i) Under Unified License GMPCS Authorisation (Chapter XII)

or

(ii) Framing of another Authorisation (New Chapter) under the Unified License.

  
(Nitin Jain) 13/12/2013  
DDG (Carrier Services)

## **INMARSAT**

### **INMARSAT Satellite Phone Service**

#### **What is INMARSAT**

INMARSAT (International Maritime Satellite Organisation) operates a constellation of geo-stationary satellites designed to extend phone, fax and data communications all over the world.

Tata Communications Ltd (TCL) permitted to provide Inmarsat services in India under their International Long Distance (ILD) licence granted by Department of Telecommunications (DoT). TCL has their Land Earth Station (LES) at Dighi, and INMARSAT-B, M, Mini-M & M-4 services are now being provided through this LES after No Objection Certificate (NOC) is issued by DoT on case by case basis.

#### **Who can apply for use of INMARSAT service?**

Any individual/ public/ private sector companies/ autonomous bodies/ Government departments etc. can apply for issue of No Objection Certificate for use of INMARSAT terminals to the CS Cell, Department of Telecommunications, Room No. 1204, Sanchar Bhavan, 20, Ashoka Road, New Delhi - 110 001.

#### **How to apply for No Objection Certificate?**

The application for issue of NOC should be made on plain paper with following information :

1. Name of the party
2. Full address of the party
3. Place of use of INMARSAT terminals
4. Period of use of INMARSAT terminals
5. Purpose for which INMARSAT terminals will be used
6. Type of Terminal for which NOC is required
7. No. of terminals for which NOC is required.

#### **Policy for issue of NOC for use of INMARSAT Terminals**

No Objection Certificate (NOC) to individual/ public/ private sector companies/ autonomous bodies etc. for the location specific use of INMARSAT 'B', 'C' & 'M' Terminals shall be issued on case by case basis under specified conditions.



NOC for INMARSAT Mini 'M' and M-4 Terminals shall be issued only to the Government departments for all areas of the country and for Public Sector Undertakings (PSUs) for specific areas other than barred areas with the approval of DDG (CS) and NOC for INMARSAT Mini 'M' and M-4 Terminals for PSUs for barred areas (Punjab, J&K, North-East States and also the coastal areas of Gujarat, Tamilnadu and border districts of Rajasthan) shall be issued on case by case basis after getting clearance from MHA. In case of PSUs, the application should either be submitted by CMD himself or copy of his approval should be enclosed with the application.

NOC for INMARSAT Mini 'M' and M-4 Terminals for a foreigner/ accredited Media & news Agencies shall be issued on case by case basis after getting clearance from MHA.

**Terms and conditions for use of inmarsat Terminals: -**

This permission issued hereby is subject to the provisions of Indian Telegraph Act and Rules made there under as modified from time to time.

The installation and maintenance of the said equipment shall be the responsibility of the 'party'.

The permission is subject to payment of licence fee, royalty charges and other charges leviable by TCL and WPC as per relevant terms and conditions.

Adequate safeguard against misuse shall be ensured by the party.

The party should ensure that facility is utilized for their genuine requirements only. The party should also ensure that adequate safeguards are taken against the risk of militant outfit gaining access to the use of satellite phones belonging to the party by threat or coercion.

Permission for use of the terminals is granted for Three years from the date of issue of the licence by WPC Wing.

This permission does not allow the proposed terminals to be directly connected to public switched network or any other dedicated network owned either by the 'party' or by any other party. Such inter-connection will be only through TCL Land Earth Station.

TCL will ensure through appropriate technical arrangement with INMARSAT, that the communication from the INMARSAT Terminals under reference, is not capable of being passed through any other Gateway. TCL will also ensure monitoring arrangement similar to those followed in case of communication through INMARSAT.

The equipment to be used should comply to the standard INMARSAT specification. TCL will ensure compliance to this as per standard INMARSAT procedure laid down for introduction of the terminals in their network.

Any departure from the license conditions/change of area of operation will need fresh sanction of DOT. However, DOT reserves its right to deny permission to such change.

**Types of INMARSAT TERMINALS**  
**for which No Objection Certificate (NOC) is issued by DOT**

**INMARSAT-B**

This is successor to INMARSAT-A System, it supports a similar range of services but is cheaper to use because it is based on modern digital communications technology and also digital design makes much better use of satellite power and bandwidth.

INMARSAT-B Land Mobile Terminals weighs around 15 Kgs. and antenna size is approximately 1.2 meter x 1.2 meter.

**INMARSAT-C**

INMARSAT-C Mobile Earth Station (MES) has a small omni directional antenna, which can be easily mounted on a vehicle or vessel.

It supports data speed up to 600 bps and provides terrestrial interfaces with telex, fax, A.25, X.400 and Internet.

Weighs around 3 to 4 Kgs. and has an omni directional antenna of about 25 centimeter height.

**INMARSAT-M**

INMARSAT-M System offers voice (4.8 Kbps), FAX (2.4 Kbps) and data (2.4 Kbps) Services.

INMARSAT-M Terminals are lightweight, portable and available for meritime, land mobile and portable versions.

Unlike INMARSAT-A Satellite Telephones, INMARSAT-M is a digital system.

Land Mobile Terminal weighs about 10 Kgs. and antenna size is approximately 70 cm x 70 cm.

**INMARSAT-Mini M**

This System offers voice (4.8 Kbps), FAX (2.4 Kbps) and data (2.4 Kbps) Services.

INMARSAT-Mini M Terminals are lightweight, compact and available in brief case version, vehicle mountable version and maritime version.

The terminal weighs around 2.5 Kgs. and the antenna size is approximately 30 cm x 30cm.

**INMARSAT-Multimedia Mini M (M4)**

INMARSAT-Multimedia Mini M (M4) is a hybrid system of INMARSAT-B and INMARSAT-Mini M Systems.

The terminal weighs around 4 Kgs and the antenna size is approximately 100 cm x 70cm.

It supports high-speed voice, fax and circuit switch data services.



The terminal shall be low cost, lightweight and would be supporting 64 Kbps data facility with embedded communication applications.

## List of INMARSAT Terminal users

### Central Govt./State Govt. Department

Si.No.	NOC Holder/User
1.	Major General, ADG SD, Army Headquarters, DHQPO, New Delhi-110011
2.	Commanding Officer, 1/5 Gorkha Rifles (frontier Force), C/o 56 APO, New Delhi-110011
3.	Major General, Directorate General of Signals, Army Headquarters, DHQPO, New Delhi-110011
4.	Brigadier DDG SD-(A), Army Headquarters, DHQPO, New Delhi-110011
5.	Wg Cdr & Air Cmdr, Dte. Staff Ops(T&H), Air Headquarters, New Delhi-11
6.	Major Officer Commanding, Signal Section Project Himank, PIN-931710, C/O 56 APO.
7.	Major General, Chief Signal Officer, Northern Command, C/o 56APO
8.	Brigadier, HQCI Force Delta, C/o 56 APO
9.	Sqn Ldr, DD Sigs (Air/Com), Air Headquarters, Vayu Bhavan, New Delhi-1
10.	Gp. Capt., Dte of Signals(Air), Air Headquarters, Vayu Bhavan, Rafi Marg, New Delhi-110106
11.	Major General, ADG(T), Director General of system, General Staff Branch, Army headquarters, New Delhi-110011
12.	8 Recce & Observation Flight, C/O Addl. Directorate General, Army aviation, DHQPO, New Delhi-11
13.	Logistics Company, 17 HORSE, C/o 56 APO, Delhi Cantt., New Delhi-11
14.	Chief Signal Officer, Uttar Kaman Mukhyalaya, Headquarters, Northern Command, C/o 56APO
15.	Directorate General of Signals (DSA), 2 Army HQ Sig Regt, Upper Ridge Road, New Delhi
16.	Colonel, Headquarters, Western Command, Chandimandir-134107
17.	Ministry of Home Affairs, Block No.10, C.G.O. Complex, Lodhi Road, New Delhi
18.	Ministry of Home Affairs, South Block, New Delhi
19.	Cabinet Secretariat, GoI, Room No 7, Bikaner House, New Delhi-110001
20.	Directorate General, National Investigation Agency, Ministry of Home Affairs, New Delhi.
21.	Intelligence Bureau, MHA, 35, S.P. Marg, New Delhi-110021
22.	Joint Secretary (CNV) & Chief Vigilance Officer, MHA, New Delhi
23.	Joint Secretary (Estt.), Ministry of Home Affairs, New Delhi-110001
24.	Director, SPC/FM, ISRO Headquarters, Antriksh Bhavan, Bangalore
25.	Department of Space, Satish Dhawan Space Centre, SHAR, Sriharikota Range, P.O. 524124, Andhra Pradesh
26.	Joint Director, Intelligence Bureau, MHA, Room No 1022, New Delhi-21
27.	Department of Disaster Management, M.H.A
28.	IG (Ops), HQ NSG (MHA), Communication Dept. CGO Complex, Lodhi Road, New Delhi-110003
29.	National Security Guard(NSG)



30.	Principal Secretary, Disaster Management Authority Department, Government of West Bengal
31.	Chief Executive Officer, Assam State Disaster Management Authority, Government of Assam
32.	Additional Secretary, Disaster Management Department, 'F' Block, 4 <sup>th</sup> Floor, Writers' Buildings, Kolkata-700001, West Bengal
33.	Cabinet Secretariat
34.	Ministry of External Affairs, South Block, New Delhi
35.	Officer in charge (Stores), Ministry of External Affairs (Stores) RRC, Patparganj, New Delhi
36.	East Asia Division, MEA, Room No 255-A, South Block, New Delhi
37.	Director General, All India Radio, Prasar Bharati, Sansad Marg, New Delhi-110001
38.	All India Radio, Cuttack
39.	Secretary Home Department, Govt. of Rajasthan
40.	Divisional Commissioner, Ajmer
41.	Divisional Commissioner, Udaipur
42.	Divisional Commissioner, Bikaner
43.	Divisional Commissioner, Jodhpur
44.	Divisional Commissioner, Bharatpur
45.	Divisional Commissioner, Uttarkashi
46.	Assistant Commissioner(SA)& (R&DM), Andaman & Nikobar Admn., South Andaman
47.	Chief Signal & Telecommunication Engineer, Central Railway, Mumbai-400001..
48.	General Manager, Head Quarters (S&T), Southern Railway, Chennai-600003
49.	GM (S&T), North Western Railway, HQ Office, Jaipur, Rajasthan.
50.	General Manager (S&T), East Central Railway, Hajipur
51.	General Manager (S&T), Eastern Railway, Calcutta
52.	General Manager (S&T), North Central Railway, Allahabad
53.	Chief Signal & Telecom Engineer, East Coast Railway, Bhubaneswar
54.	Chief Signal & Telecommunication Engineer, West Central Railway, Jabalpur
55.	General Manager (S&T), Western Railway, HQ Office, Churchgate, Mumbai-400020
56.	Principal Secretary, Dept. of Disaster Mgmt. Govt. of Uttaranchal, Dehradun
57.	Chief Signal & Telecom Engineer, North Western Railway, Jaipur
58.	Chief Signal & Telecom Engineer, South Western Railway, Hubli
59.	Chief Communication Engineer, Northern Railway, Baroda House, New Delhi
60.	Senior Divisional Signal & Telecom Engineer, Sanchalan Bhavan, South Central Railway, Secunderabad
61.	General Manager (S&T), South East Central Railway, Bilaspur
62.	Chief Communication Engineer, O/o GM(S&T), North Eastern Railway, Gorakhpur
63.	Conservator of Forests, Government of Uttaranchal, Dehradun-248006
64.	Sr. Dy. Director General, Geological Survey of India, Lucknow
65.	IAS, Commissioner for Disaster Mgmt. Revenue Dept. A.P. Secretariat, Hyderabad-500022
66.	Addl. Chief Secretary to Govt. of Assam, Revenue Dept., Assam Sachivalaya, Dispur, Guwahati

67.	Director/Conservator of Forests, Nanda Devi Biosphere Reserve, Gopeshwar-246401, Uttarakhand
68.	Addl. Secretary-I, Land Revenue & Disaster Management Dept., Govt. of Sikkim
69.	Project Director, Defence Research & Development Laboratory, Kanchanbagh, Hyderabad
70.	National Institute of Ocean Technology, Chennai, Ministry of Earth Sciences, Government of India

#### Para Military Forces/ State Police

Si.No.	NOC Holders/Users
1.	CRPF
2.	BSF
3.	CISF
4.	SSB
5.	ITBP
6.	Special Branch, Police Head Quarters (PHQ), Bhopal, M.P
7.	Director General of Police, Police Headquarter, Attlanta point, Port Blair PO pin 744104, Andaman & Nicobar Islands
8.	Director General & Inspector General of Police, Karnataka State, Bangalore
9.	Director General of Police, Tamilnadu, Chennai-600004
10.	Directorate of Intelligence, Orissa, Cuttack
11.	Director General of Police, Police Headquarters, J&K, Srinagar
12.	O/o Spl. Inspector General of Police & Director of Police Wireless, Maharashtra State, Pune-411004
13.	Addl. Director General of Police (Mod & Finance), Jharkhand Mantralaya, Dhurwa, Ranchi-834004
14.	Inspector General of Police (Hqrs), O/o Director General & Inspector General of Police, Meghalaya, Shilong
15.	Inspector General of Police, Andhra Pradesh
16.	Inspector General of Police, West Bengal
17.	Inspector General of Police, Bihar
18.	Inspector General of Police, Chhattisgarh
19.	Inspector General of Police, Uttarpradesh
20.	Inspector General of Police, Rajasthan
21.	Inspector General of Police, Greyhounds, Hyderabad
22.	Inspector General of Police, Arunachal Pradesh, Itanagar
23.	Director General of Police, A&N Islands



### Govt. PSU/ State PSUs

Si. No.	NOC Holders/Users
1.	ONGC
2.	Oil India Limited
3.	NHPC
4.	GAIL
5.	Nuclear Power Corporation of India
6.	Bharat Electronics Ltd.
7.	Mahanagar Telephone Nigam Limited
8.	V.O. Chidambaranar, Port Trust, Tutocorin
9.	M/s Chennai Port Trust, Rajaji Salai, Chennai-600001
10.	Chairman Kandla Port Trust, Kuch, Gujrat
11.	M/s Powergrid Corporation of India Limited
12.	Airports Authority of India
13.	Chief Signal & Telecom Engineer, Konkan Railway Corporation Ltd., CBD, Belapur
14.	Gujarat Energy Transmission Corporation Limited
15.	Gujrat State Petronet Limited, Gandhinagar, Gujrat
16.	Managing Director, Rajasthan Civil Aviation Corporation Limited, State VIP Hangar, Sanganer Airport, Jaipur-11

### Private Organisation /News-Medias

Si.No.	NOC Holders/users
1.	HSBC Electronics Data Processing (India) Pvt. Ltd., Plot No. 3&4, Hi-Tech City Layout, Madhapur, Hyderabad-500081
2.	M/s Strabag Afcons Joint Venture
3.	M/s Mitsui & Co. India Pvt. Ltd.
4.	The Advisor-Regulatory Affairs, TV Today Network Limited, Videocon Tower, E-1, Jhandewalan Extension, New Delhi-110055
5.	Chairman, Medecins Sans Frontieres Holland India Trust (Trust Registration No.- 5691), C-106, Defence Colony, New Delhi-110024