

**Government of India
Ministry of Communications
Department of Telecommunications
(Satellite Licensing Division)**

F. No. 60-SATCOM Plan/DoS/2020-SAT

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GUIDELINES-2022

**Guidelines
for establishing satellite-based communication network(s)**


26.10.2022

CONTENTS

	Subject	Page No.
Chapter-I	Licensing regime of DoT for satellite-based communication services	3-9
Chapter-II	Process for seeking in-principle clearance and other approvals for establishing satellite-based communication network by a licensee.	10-15


26.10.2022

Chapter-I

1. **Licensing regime of DoT for satellite-based communication services**

1.1 Satellite based communication services can be provided within the respective scope of the following licenses/authorizations issued under Section 4 of the Indian Telegraph Act, 1885:

- (i) Global Mobile Personal Communication by Satellite (GMPCS) Service authorization under Unified License
- (ii) VSAT CUG Service authorization under Unified License for commercial service
- (iii) In-Flight and Maritime Connectivity (IFMC) Service authorization
- (iv) Captive VSAT CUG license
- (v) National Long Distance (NLD) Service authorization under Unified License

Besides the above, satellite-based connectivity can also be provided under other authorizations of the Unified License, viz. Access Service as per the scope of the respective license.

1.2 The scope and some of the salient features of the above mentioned licenses/authorizations have been described briefly for use of satellite media in the succeeding paragraphs, for the sake of easy comprehension. However, applicants are also advised to refer all the applicable terms and conditions of respective license agreement/guidelines available on DoT website.

1.3 **Global Mobile Personal Communication by Satellite (GMPCS) Service**

1.3.1 The scope of this license is to provide, inter-alia, all types of mobile services including voice and non-voice messages, data services by establishing GMPCS Gateway in India utilizing any type of network equipment. The 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. The licensee may also provide satellite-based data connectivity to the IoT devices/Aggregator devices.

1.3.2 All calls originating or terminating from Mobile Terminals in India shall pass through the GMPCS Gateway Switch located in India. Such calls will not be routed through any other Gateway located outside India.


26.10.2022

- 1.3.3 The issuance of Letter of Intent (LoI) for GMPCS authorization shall be subject to security clearance of the proposal by an Inter-Ministerial Committee.
- 1.3.4 The licensee is to make available the adequate monitoring facility at the GMPCS gateway in India to monitor all traffic (traffic originating/terminating in India) passing through the applicable system.
- 1.3.5 The Licensee shall disclose complete details of terms and conditions of the contracts/licenses entered into with its parent/associate company and/or space-segment/ satellite-system owner/operator including those contained in contracts/licenses issued by the Governments/Authorities of the country where the parent/associate company is registered and/or carries on its business prior to grant of license and before security clearance for the service in India.

1.4. VSAT CUG Service authorization under Unified License for commercial service

- 1.4.1 The scope of this service is to provide, inter-alia, data connectivity between various sites scattered within territorial boundary of India using VSATs. The users of the service should belong to a Closed User Group (CUG).

Commercial VSAT CUG license can be used to provide backhaul connectivity to the Access Service providers for cellular mobile services and for establishing Wi-Fi hotspots.

The licensee may also use the VSAT terminal to aggregate the traffic from M2M/IoT devices/aggregator devices of the CUG and also to provide backhaul connectivity to service providers having license/ Authorization/ Registration for M2M services.


However, PSTN/PLMN connectivity is not permitted except the backhaul connectivity mentioned above.

User terminal stations on moving platform(s) are also permitted for provisioning of connectivity subject to compliance to relevant TEC standard(s) and conditions mentioned therein.

- 1.4.2 Definition of Closed User Group (CUG):

A Closed User Group is permissible for following categories of business association:

- (i) Producer of goods and his trader/agent;
- (ii) Provider of service and his trader/agent;
- (iii) Producer of same category of goods (e.g. manufactures of petroleum products); and

 . . 26.10.2022

(iv) Provider of the same category of service (e.g. bank).

Provided that ultimate consumer of a service or a product shall not be a part of the Closed User Group.

A Closed User Group can also be formed among a holding company and its subsidiaries, these terms being defined as per the Companies Act 2013. Provided that such Closed User Group shall be only for the purposes of legitimate internal business communications of the group.

1.5. In-flight and Maritime Connectivity (IFMC) Service Authorization

1.5.1 A company can obtain In-flight and Maritime Connectivity (IFMC) Authorization to provide wireless voice or data or both type of telegraph messages on ships within Indian territorial waters and on aircraft within or above India or Indian territorial waters. The IFMC Service Provider so authorised may provide such services in geographical areas such as Exclusive Economic Zones (EEZ), High Seas, etc. in accordance with the rights granted to State under the international laws.¹

1.5.2. A licensee shall be eligible to apply for authorisation to provide IFMC service if it:

- (a) holds a license for access service or an ISP category A license; and
- (b) holds an NLD license or a Commercial VSAT CUG service license, and has satellite gateway earth station within the service area of the license as specified in clause (a), in case connectivity through satellite is used.

1.5.3 The following companies shall also be eligible to apply for authorisation to provide IFMC service by entering into commercial agreements as referred to in clause 1.5.6 and 1.5.7, namely:

- (a) any Indian airlines company or foreign airlines company having permission to enter Indian airspace by the Directorate General of Civil Aviation;
- (b) any Indian shipping company or foreign shipping company whose vessels or ships call Indian ports or transit Indian territorial waters and intend to carry out communication for non-GMDSS (Global Maritime Distress and Safety System) [routine] or for commercial purpose; and
- (c) any company incorporated under the Companies Act, 2013 (18 of 2013) or under any previous company law.

¹ As per DoT clarification No. 20-504/2016 AS-I, Vol.-11 dated 21st May 2019


26.10.2022

- 1.5.4 A licensee referred to in clause 1.5.2, may provide voice or data or both services in accordance with the scope of the license, held by it.
- 1.5.5 Data service may be provided by the IFMC service provider through Wi-Fi.
- 1.5.6 For providing data service, the companies referred to in clause 1.5.3, shall enter into a commercial agreement with at least one licensee of –
- (a) access service or ISP category A; and
 - (b) commercial VSAT CUG service or NLD service, having satellite gateway earth station within the service area of partnering licensee as referred to in clause (a), in case connectivity through satellite is used.
- 1.5.7 For providing voice and data service, the companies referred to in clause 1.5.3, shall enter into a commercial agreement with at least one licensee of –
- (a) access service; and
 - (b) commercial VSAT CUG service or NLD service, having satellite gateway earth station within the service area of partnering licensee of access service, in case connectivity through satellite is used.
- 1.5.8 The applicant shall carry out lawful interception and monitoring. For establishing connectivity to a Centralised Monitoring System, the IFMC service provider at its own cost shall arrange either itself or through its partnering licensee, appropriately dimensioned hardware and bandwidth or dark fibre upto a designated point as required by the DoT.
- 1.5.9 Gazette notification dated 14.12.2018² “Flight and Maritime Connectivity Rules, 2018”, as modified from time to time, may be referred for more details.

1.6 Captive VSAT CUG license:

- 1.6.1 License for Captive VSAT Closed User Group domestic data network using INSAT satellite system is to provide, inter-alia, data connectivity for internal communication of an organisation and is for non-commercial purpose. The sites connected using VSATs should form part of a Closed User Group (CUG) as defined above.
- 1.6.2 The licensee can set up more than one CUG for their own use.
- 1.6.3 VSAT terminal may be used to aggregate the traffic from M2M/IoT devices as long as the CUG nature of the network is not violated.

² <https://dot.gov.in/actrules/gazette-notification-flight-and-maritime-connectivity-rules-2018>

 . . 26.10.2022

1.6.4 User terminal stations on moving platform(s) are also permitted for provisioning of connectivity subject to compliance to relevant TEC standards and conditions mentioned therein.

1.7 National Long Distance (NLD) Service authorization under Unified License

1.7.1 The NLD Service licensee shall, inter-alia, have the right to carry inter-circle switched bearer telecommunication traffic over its national long distance network. The licensee may also carry intra-circle switched traffic where such carriage is with mutual agreement with originating access service provider.

The licensee can provide Leased Circuit / Virtual Private Network (VPN) Services.

The licensee can provide bandwidth to other telecom service licensee also. Further, the licensee can also provide connectivity to service providers which have obtained registration for M2M service.

2. In case of provision of services by the licensee through the satellite media or use of satellite media through owned/leased satellite connectivity, the licensee shall abide by the prevalent Government guidelines, policy, orders, regulation or direction on the subject like Space Policy.

3. Before putting in operation the network for satellite based services, the required clearance(s) will be taken by the licensee as described in Chapter-II of these guidelines.

4. How to apply for the license(s) / authorization(s) under the Unified License:

4.1 Online application can be made on the web portal www.saralsanchar.gov.in. 'SARALSANCHAR' (Simplified Application for Registration and Licenses) is a unified portal to issue various types of Licenses and registrations in a digitized manner which ensures transparency and makes the process more efficient, paperless and secure for applicants.

4.2 Applicants can fill-up the prescribed application form and upload the documents and application form with digital signature. The processing and all the communication to/from the applicants is online. The portal envisages that applicant gets prompts and alerts at various stages of application processing so that all necessary requirements are able to be fulfilled in a friction-less manner.

 . 26.10.2022

4.3 Fee payable for various service licenses has been compiled as below for ready reference:

	Commercial VSAT CUG License	Captive VSAT CUG License	GMPCS License	IFMC Service
Application Processing Fee	50 Thousands	25 Thousands	50 Thousand	Nil
Entry Fee	Rs. 30 lakh	Rs. 15 lakh	Rs. 1 Crore	Nil
License Fee p.a. (w.e.f. 01.04.2013)	8% of AGR	Rs. 10,000/- per VSAT	8% of AGR	Rs. 1
FBG ³ amount	Rs. 6 Lakh	Rs. 3 Lakh ⁴	Rs. 20 lakh	Nil
PBG ⁵ amount	Rs. 10 Lakh	NIL	Rs. 50 lakh	Nil

4.4 Applications for satellite-related experimental and technology-trial license(s)

4.4.1 The online applications can be made to WPC wing of DoT on the Saral Sanchar portal for satellite-related experimental and technology-trial license categories [excluding demonstration license] as detailed in the WPC OM No. R-14016/01/2019-NT(Pt.) dated 23.07.2019 (as modified from time to time).

5. Spectrum allotment and use

5.1 Right to use the spectrum: The in-principle clearance/letter of intent/ the License Agreement for service authorization does not confer any right to assignment and use of spectrum for which separate specific Frequency Assignment is required from WPC Wing of DoT.

5.2 Frequency Assignment: The applicant need to separately apply for Frequency Assignment from the Wireless Planning and Coordination (WPC) Wing of DoT which permits utilization of appropriate frequencies under specified procedure, instructions, terms and conditions including payment for said assignment and right to use of spectrum prescribed by WPC Wing from time to time.

5.3 Service Providers are allowed to use any of the satellite frequency bands permitted by WPC for providing satellite-based low bit-rate connectivity.

³ Financial Bank Guarantee

⁴ Financial Bank Guarantee is not applicable in the case of Central Government Departments for Captive VSAT CUG license.

⁵ Performance Bank Guarantee

 26.10.2022

5.4 The Licensor/ WPC Wing of DoT reserves the right to modify the procedure for allotment of spectrum and/or rates for payment for said allotment and use of spectrum at any time.

6. Use of space segment:

6.1 The required satellite capacity (space segment) shall be obtained by the Licensee from Department of Space (DoS)/NSIL⁶ or space segment provider duly authorized by DoS/IN-SPACE⁷ on terms and conditions as applicable.

6.2 The satellite capacity (space segment) charges will be payable to DoS/NSIL or space segment provider as applicable.

6.3 It must be ensured that the land earth station (gateway), corresponding to the chosen foreign satellite/satellite system is established in India. The 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.

6.4 All types of satellite viz. Geo Stationary Orbit (GSO) and Non-GSO (NGSO) satellites are permitted to be used for providing satellite-based low bit-rate connectivity.

7. Establishing a satellite based communication network after obtaining the license:

7.1 The license/authorization can be obtained as per details mentioned above in this chapter. After obtaining the license/authorization, the required clearance(s) and necessary procedure for establishing the satellite-based **communication** network are described in the following chapter.

 . . . 26.10.2022

⁶ New Space India Limited –A Govt. of India company under DoS.

⁷ IN-SPACE - Indian National Space Promotion and Authorisation Centre

Chapter-II

Process for seeking in-principle clearance and other approvals for establishing satellite-based communication network by a licensee.

1. Providing any satellite-based communication service to the public or setting up a satellite-based network is a multi-stakeholder process that requires close coordination among the Department of Space (DoS), Ministry of Information & Broadcasting (MoI&B), Department of Telecommunications (DoT) Satellite Licensing division, Wireless Planning & Coordination (WPC) Wing, Network Operations & Control Center (NOCC) and seeking separate authorisation/permissions by respective entity broadly indicated below:
 - a) Service license or appropriate authorisation from DoT under the Indian Telegraph Act as described in previous chapter.
 - b) Space segment assignment to render the services through DoS/NSIL or space segment provider duly authorized by DoS/IN-SPACE,
 - c) Frequency assignment [Decision Letter (DL), SACFA clearance, & Wireless Operating License] from WPC.
 - d) Carrier plan approval and up-linking permission from NOCC.
 - e) Security clearance (wherever applicable)

In addition, Telecommunication Engineering Centre (TEC) issues/modifies the relevant standards including the Interface Requirements from time to time. NOCC is responsible for monitoring the Satellite systems & resolving interference issues.

2. To bring these entities together, an Inter-Ministerial Committee for Satellite Network Clearance (IMC-SNC), hitherto known as Apex Committee, having representatives from these units has been authorized to provide a single platform to enable the issuance of "in-principle clearance" to the proposed network. If the application is in order, on the recommendation of IMC-SNC, Satellite Licensing division of DoT issues in-principle clearance to the applicant for establishing the satellite based network.
3. Applicant company having requisite license/authorization and desirous of establishing a new network or modification in network, is required to obtain in-principle clearance. The objective of the examination by IMC-SNC being that once the in-principle clearance is issued by DoT, the further issue of clearances by individual units thereafter is carried out quickly so that there are no delays in operationalizing the satellite network(s).

 . 26.10.2022

4. The application for setting up a satellite-based communication network is examined by IMC-SNC on the technical and regulatory aspects including compliance to relevant TEC Interface Requirement(s) to ensure interference-free operations of proposed network/service without causing any harm to existing networks/services.
5. Besides scrutiny & examining the proposal(s) for the establishment of the network, the IMC-SNC shall also act as a facilitator whereby, the convener and the committee members shall handhold/guide the applicants for completing the formalities, so that the time to set up the satellite-based network is minimized. The detailed scope, constitution of the IMC-SNC and related procedure are given in DoT letter no. 60-SATCOM Plan/DoS/2020-SAT dated 26th October, 2022.
6. **When to apply for in-principle clearance:**
 - 6.1 After obtaining the license/authorization, any entity desirous of establishing and/or operating a satellite-based communication network/service (Commercial or Captive) shall apply for in-principle clearance to the Satellite Licensing Division of DoT. After initial scrutiny from licensing and regulatory aspects, the proposal may be circulated to members of IMC-SNC, if required.

For grant of In-principle approval, the Inter-Ministerial Committee for Satellite Network Clearance (IMC-SNC) examines the following types of proposals received from applicant company having requisite license/authorization for satellite-based service/network:

 - (i) For establishing any satellite based communication network for GMPCS service, VSAT CUG service, IFMC service, NLD/AS/ISP service or Captive VSAT CUG network.
 - (ii) For starting totally new service/network or change in the service/network.
 - (iii) For use of new technology for the first time, change of technology.
 - (iv) For setting up of additional hub /gateway station.
 - (v) For change of frequency band.
 - (vi) Any proposal that is not exactly similar to a previously cleared proposal or not scrutinised and approved by the IMC-SNC for any other licensee.
 - 6.2 Proposals relating minor changes like expansion in the same frequency band with the same hub or reconfiguration/shifting of the networks due to contingencies would not attract the scrutiny of IMC-SNC. In such cases, Satellite Licensing Division may issue in-principle clearance on the applicant's proposal.

 - 26.10.22

7. How to apply for in-principle clearance:

The applicant is required to submit following documents along with their application/proposal on the online SaralSanchar portal:

- (i) Brief write up of the proposed network & services along with schematic diagram.
 - (ii) Link engineering for all types of carriers in the enclosed standard format with approved satellite parameters.
 - (iii) Carrier power & bandwidth summary showing total space segment & satellite power requirements.
 - (iv) Clause-by-clause compliance to applicable mandatory TEC GR/IR.
 - (v) List of model & make of all the equipment proposed in the network along with their specifications/data sheets.
 - (vi) Exact locations of hub/central site and tentative locations of other earth stations/VSATs.
 - (vii) Comparative statement highlighting modifications/changes in the network in case of existing service providers.
 - (viii) If the satellite/constellation on which service is proposed is other than INSAT/GSAT, additional details about the satellite/constellation, user terminals and security related aspects like geo-fencing capabilities etc. are also required.
 - (ix) Any other information, as required by IMC-SNC for consideration of the application
8. The proposal will be examined by Satellite Licensing Division and presented to IMC-SNC, if required⁸. After consideration of the proposal, in-principle clearance for setting up or modifications as proposed by the applicant will be issued. All applicants should be holders of license/authorisation under the Indian Telegraph Act.
9. The applicant would then apply to DoS/NSIL or space segment provider duly authorized by DoS/IN-SPACE for assignment of satellite capacity (space segment).
10. After obtaining the satellite capacity (space segment), the applicant shall get carrier plan approval from NOCC on the online system. The carrier plan thus

⁸ As per the scope and procedure of IMC-SNC DoT letter no. 60-SATCOM Plan/ DoS/2020-SAT dated 26th October, 2022, proposals relating minor changes like expansion in the same frequency band with the same hub or reconfiguration/shifting of the networks due to contingencies would not attract the scrutiny of IMC-SNC. Also, any proposal which is broadly similar and cleared by IMC-SNC for any licensee earlier would not attract the scrutiny of IMC-SNC. In such cases, Satellite Licensing Division may issue in-principle clearance on the applicant's proposal.


26.10.2022

captured on the SaralSanchar portal along with the equipment details, antenna parameters etc. may subsequently be utilised by NOCC and WPC for interference monitoring purposes.

11. The applicant would thereafter apply online for frequency assignment & related clearances from WPC. In this regard:
- (i) The entire application process for frequency assignment including Lol, DL, SACFA & WOL⁹ shall be online and based on single scrutiny. After scrutiny, wherever required, Lol is generated by WPC. The Decision Letter is generated instantly after payment by the applicant.
 - (ii) SACFA clearance has been simplified wherein the SaralSanchar portal clears the cases in a time-bound manner after capturing the location address & other necessary details of equipment.
 - (iii) After the SACFA clearance:
 - a) **For the satellite gateway hub equipment**, the WOL will be generated automatically after submission of the requisite document(s) like equipment details by the applicant on the SaralSanchar portal.
 - b) **For remote stations / user-side terminals / VSATs**
After clearance of the gateway hub equipment as described in para (a) above, to enable faster deployment of user terminals and accelerate roll-out of the services by the licensee, there shall not be a requirement to apply for any clearance on a per-site basis for the remote side customer-equipment & the user terminals. i.e. For installing/addition of remote-stations/satellite terminals/VSATs on the subscriber end, no clearance like WOL shall be required. The relevant information like the address & type of the user terminal(s), if required, for the purpose of analysis by the WPC, shall be captured on the online portal on the basis of self-certification in case the same is not already available on the portal.
12. After obtaining the WOL/frequency assignment from WPC, the licensee shall upload the self-certified details of requisite antenna parameters¹⁰ for generating up-linking permission online, which will be validated on the online portal by NOCC

⁹ Lol=Letter of Intent, DL=Decision Letter, WOL=Wireless Operating License, SACFA= Standing Advisory Committee on Frequency Allocation.

¹⁰ The details of the relevant antenna parameters along with radiation pattern results for all antenna above 3.8 m and on one antenna for each make/model for smaller antennas.


26.10.2022

within three days. **The applicant will then be able to download the up-linking permission and start operations of the satellite network.**

13. Henceforth, the erstwhile Mandatory Performance Verification Testing (MPVT) procedure is not required to be carried out by NOCC before start of the antenna operation(s) i.e. the MPVT procedure is dispensed with. Instead of MPVT by NOCC prescribed earlier, the details of the relevant antenna parameters shall be furnished online by the applicant on the basis of self-declaration along with radiation pattern results. Radiation Pattern testing should be conducted by the licensee after installation of antenna for all antenna above 3.8 m and on one antenna for each make/model for smaller antennas.

Since the MPVT shall be on self-certification basis, henceforth there would not be any MPVT charges (testing charge) payable to NOCC for such self-certification.

Later, for interference monitoring and mitigation, NOCC may, however, call for additional details and conduct tests, if required. In case of material deviation in the actually installed equipment vis-a-vis approved parameters, suitable remedial action may be ordered by the NOCC.

14. NOCC charges of ₹21 lakhs per transponder (36 MHz) per annum for use of space segment have been removed.¹¹
15. The prescribed time frame for the various assignments/clearances will be as under:
- (i) DoS/NSIL will issue satellite capacity (space segment) assignment letter within seven working days of submission of the application.
 - (ii) NOCC will issue carrier plan (or change in carrier plan) approval within seven working days. Also, the self-certified details of requisite antenna parameters uploaded by the applicants will be validated by NOCC within three days so that the up-linking permission can be downloaded from the portal.
 - (iii) The frequency assignment including issue of Lol/Decision Letter/SACFA clearance/WOL will be completed by WPC within a period of one month.
16. The coordination, monitoring and interference resolution of space segment shall be carried out by NOCC. All the contingency operation due to failure of

¹¹ Vide DoT order No. 824-201/TRAI/2020-SAT (Vol-III) dated 06.05.2022 for telecom licensees and order no.824-200/NOCC Charges/2022-SAT dated 26th October, 2022 for other service providers including TV broadcasters.


26.10.2022

transponder/satellite or RF interference, monitoring and operational control of space segment usage is handled by NOCC.

17. The Licensee(s) are permitted to use any technology, conforming to the TEC IR/GR, to provide the services. The technical parameters such as radiation pattern of antenna, maximum permissible off-axis EIRP, antenna size and PSD limits shall follow the relevant TEC Interface Requirements/ ITU-R Recommendations.
18. Applicable TEC standards: For providing the services, the Licensee shall install equipment complying with the technical parameters mentioned in the applicable Standard(s)/Interface Requirement issued by TEC, as modified from time to time. Applicants are advised to check the applicable documents on TEC website (www.tec.gov.in) from where these can be downloaded for free. At present, TEC has issued the following Interface Requirement (IR) documents for technical compliance of a satellite based communication network, as applicable:
 - a) Standard for Interface Requirements for Communication and Broadcast Networks for FSS/BSS- Mandatory Technical Requirements bearing no. TEC 42012:2021 (as modified from time to time).
 - b) Interface Requirements for VSAT based Mobility Services- Mandatory Technical Requirements bearing No. TEC/IR/SS/SCB-109/01/MAR-19 (as modified from time to time).
19. The LICENSOR reserves the right to modify at any time these guidelines and terms and conditions of the LICENSE, if in the opinion of the LICENSOR it is necessary or expedient to do so in public interest or in the interest of the security of the State or for the proper conduct of the telegraphs. The decision of the LICENSOR shall be final and binding in this regard.
20. Any queries with regard to these guidelines may be sent to Director(Satellite) at dirtsat1-dot@gov.in.


26.10.2022

