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Counter Comments
On CP¹PR^{2,3}

Introduction:

1.Consultation Paper(CP⁴) is on Licensing Framework for Establishing Satellite Earth Station Gateway.

1.1The typical elements involved in a Satellite Communication System consist of a satellite(space segment), Earth Station(part of ground segment) and terminal stations⁵.

1.1(a) earth station/stations acts/act as gateway/gateways to terrestrial network⁶.

1.2The need for a Licensing Framework for Establishing Satellite Earth Station Gateway arises only in case satellite based communication service/services provider and satellite operators are separate entities.

2.Presently the service provider licensee rendering satellite based communication services like:

i) VSAT CUG, ii) GMPCS and iii) MSS-R is required to establish gateway itself for meeting its own space segment requirements

2.1In case the service provider licensee rendering satellite based communication services needs space segments for meeting its needs then interconnection is needed between its network and the earth station of satellite operator.

3.Satellite Connectivity:

3.1”Satellite connectivity is utilized for a range of different deployment scenarios in support of last mile connectivity, e.g. mobile backhaul, Wi-Fi and direct broadband satellite-to-the-premises. Satellites are usually grouped in three different categories: GEO, MEO and LEO (see **Table 23** for a comparison of GEO, MEO and LEO characteristics)’⁷.

3.2 **Table 25**⁸ presents a number of emerging connectivity technologies and compares their characteristics.

4. The words ‘foreign satellites’ are appearing only ‘1’ time in CP⁹ for uplinking of Television Channels From India in ‘C’ Band.

5. Satellite can provide not only many services including IoT, and broadband¹⁰ but also ubiquitous coverage across the country¹¹.

5.1”In order to provide the above-mentioned services, satellite orbit is selected based on the requirements of the application. Satellite orbits can be categorized as Geostationary Earth Orbit (GEO), Medium Earth Orbit (MEO), or Low Earth Orbit (LEO). MEO and LEO orbit satellites are collectively called Non-Geo Stationary Orbit (NGSO) satellites.”.

5.2 The characteristics including its location of a Satellite Earth Station Gateway, a part of earth segment of Satellite based communication, will depend on Satellite Orbit of the Satellite {GSO, NGSO(MEO, LEO) or any other space segment platform, catered by it. So on the analogy of information provided¹² the carriers may be assigned to Satellite Earth Station Gateway.

ISSUES FOR CONSULTATION

Q1. Whether there is a need to have a specific license for establishing Satellite Earth Station Gateway in India for the purpose of providing satellite-based resources to service licensees? Do justify your answer.

Ans.1. In view of para 1.2 of Introduction above **Satellite Earth Station Gateway** is a distinct entity as such needs a specific license.

Q2. If yes, what kind of license/permission should be envisaged for establishing Satellite Earth Station Gateway in India? Do provide details with respect to the scope of the license and technical, operational, and financial obligations, including license fee, entry fee, bank guarantees, and NOCC charges, etc.

Ans.2. Kindly refer to Ans.6. below. Regulatory Framework cannot override Legal Frame Work.

Q3. Whether such Earth Station license should be made available to the satellite operator or its subsidiary or any entity having a tie-up with the satellite operator? Do justify your answer.

Ans.3. Kindly refer to para 2.1 of Introduction above. Regulatory Framework cannot override Legal Frame Work.

Q4. What mechanism/framework should be put in place to regulate the access to satellite transponder capacity and satellite based resources of a Satellite operator/Earth Station licensee by the service licensees so as to get the resources in a time-bound, transparent, fair and non-discriminatory manner?

Ans.4. Kindly refer to Ans.6. below. Regulatory Framework cannot override Legal Frame Work.

Q5. Whether the Earth Station Licensee should be permitted to install baseband equipment also for providing satellite bandwidth to the service licensees as per need? Provide a detailed response.

Ans.5. Kindly refer to **Ans.6.** below. Regulatory Framework cannot override Legal Frame Work.

Q6. What amendments will be required to be made in the existing terms and conditions of the relevant service authorizations of Unified License, DTH License/Teleport permission to enable the service licensee to connect to the Satellite Earth Station Gateway established by Earth Station Licensee/Service Licensee, for obtaining and using the satellite transponder bandwidth and satellite-based resources? Do justify your answer.

Ans.6. Use of foreign satellites is permitted for uplinking of Television Channels From India to Indian as well as foreign satellites broadcasting by MoIB Ministry.

6.1 No reference issued by DoT incorporating use of foreign channels issued is available in CP.

6.1(a) Inter-alia it may please be noted that use of foreign channels may be available for both uplinking/downlinking as this will be normally available in **the Satellite Earth Station Gateway**.

\2. DTH is working on downlinking only.

3. Before considering any changes in the licence issue of adequate legal frame work for uplinking /downlinking may be firmed up.

Q7. Whether the sharing of Earth Station among the licensees (between proposed Earth Station licensee and Service Licensee and among service licensees) should be permitted? Do provide the details with justification.

Ans.7.Kindly refer to Ans.6 above. Regulatory Framework cannot override Legal Frame Work.

Q8. To whom should the frequency carriers be assigned: the Earth Station Licensee, or the Service Licensee, or whoever establishes the Satellite Earth Station? Do justify your answer.

Ans.8.Frequency carriers may be assigned to the Earth Station licensee. Kindly refer to Ans,1 also above..

Q9. What should be the methodology for the assignment of spectrum for establishing satellite Earth Station? Provide a detailed justification.

Ans.9. In view of para 5.2 of introduction above Satellite Earth Station may be assigned frequency spectrum and through process of open auction only keeping in the Supreme Court judgement¹³.

Q10. What should be the charging mechanism for the spectrum assigned to the satellite Earth Station licensee? Elaborate your answer with justification.

Ans.10.As per the recent decision of DoT, there should be no SUC for the spectrum assigned through future auctions¹⁴.

Q11. Give your comments on any related matter that is not covered in this Consultation Paper.

Ans.11. “International Telecommunication Union (ITU), through its Radiocommunication Sector (ITU-R), and its executive arm, the Radiocommunication Bureau (BR), is the global agency responsible for the management of the radio-frequency spectrum and satellite orbit resources“.

1.1.The acronym ‘ITU’ is appearing ‘27’times, the words ‘Radio Regulation/Radio Regulations/Radio Regulations(RR)’ appear ‘4’ times, the word ‘allocation’ is appearing ‘7’ times, the word ‘allotment’ is appearing ‘23’ times, in the CP, the word assignment/assignments is appearing ‘13’ times, and the word ‘assigned’ are appearing ‘26’ times in the CP.

1.2. As per ITU Article 5.1 Radio Regulations whenever allocation, allotment and assignment are to be used, they shall have to convey the meaning given them in **Nos. 1.16 to 1.18, of Article 1 of Radio Regulations**. The same are reproduced below for ready reference.

1.16 **allocation** (of a frequency band): Entry in the Table of Frequency Allocations of a given frequency band for the purpose of its use by one or more terrestrial or space radiocommunication services or the radio astronomy service under specified conditions. This term shall also be applied to the frequency band concerned.

1.17 **allotment** (of a radio frequency or radio frequency channel): Entry of a designated frequency channel in an agreed plan, adopted by a competent conference, for use by one or more administrations for a terrestrial or space radiocommunication service in one or more identified countries or geographical areas and under specified conditions.

1.18 **assignment** (of a radio frequency or radio frequency channel): Authorization given by an administration for a radio station to use a radio frequency or radio frequency channel under specified conditions.

1.3. Radio Regulations of Edition 2020¹⁵ are operative in current period. The Radio Regulations, Edition of 2020, contains the complete texts of the Radio Regulations adopted by the World Radiocommunication Conference of WRC-19 (Sharm el-Sheik, 2019). "In signing the Final Acts of the World Radiocommunication Conference (Sharm el-Sheikh, 2019), the delegation of the Republic of India reserves for its Government, the right to take such actions, as may be considered necessary, to safeguard its interests, should any administration make reservations and/or not accept the provisions of the Final Acts or fails to comply with one or more provisions of the Final Acts, including those which form a part of the Radio Regulations."¹⁶. In view of this the relevance of contents of paras 11.1. & 11.2. is not quite explicit.

2. Notwithstanding the multiple use of words 'allocation', 'allotment', 'assignment' in the CP at various places and the observations made in para 1.1 of **Ans.11.** above the meaning of these words may be taken as given in **Nos. 1.16 to 1.18, of Article 1 of Radio Regulations..**

3. Acronym 'NFAP' is appearing at '2' places in NFAP but year is not specified for NFAP in both places.. In public domain only NFAP2012 based on WRC 11. Updated NFAP based on WRC 2019 the same is over due. The same may be made available in public domain by WPC(DoT).

4. Reference to Constitution of ITU is made at one place in CP.

5. "• **The functions required to implement the interface between the gateway and the terrestrial' network, e.g. the local Public Land Mobile Network (PLMN) where this exists, in the perspective to take advantage of the roaming facilities already implemented in this type of networks thus avoiding unnecessarily duplicated functions.**

• **The possibility to directly interface the GW to the PSTN, needed to support the implementation of rural networks for serving regions where no PLMN facilities exist."**¹⁷

References

1. https://www.trai.gov.in/sites/default/files/CP_15112021.pdf
2. https://www.trai.gov.in/sites/default/files/PR_No.49of2021.pdf
3. https://www.trai.gov.in/sites/default/files/CP_15112021.pdf
4. supra '1'
5. page '4' supra '1'
6. https://link.springer.com/chapter/10.1007/978-1-4471-3023-9_9
7. [The Last-mile Internet Connectivity Solutions Guide Sustainable connectivity options for unconnected sites \(itu.int\)](#)
8. **ibid** 7
9. para 2.13 supra '1' https://www.itu.int/dms_pub/itu-r/opb/act/R-ACT-WRC.14-2019-PDF-E.pdf
10. para 1.3 of supra '1'
11. **ibid.**
12. para 3.7 of supra '1'.
13. <https://main.sci.gov.in/judgment/judis/39041.pdf>
14. <https://dot.gov.in/sites/default/files/2021-10-08%20-%20OM%20regarding%20Spectrum%20reforms.pdf>
14. supra 7
15. <https://www.itu.int/pub/R-REG-RR/en>
16. **ibid**
17. supra '6'