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Dated: 20.12.2021

To,
Shri Syed Tausif Abbas, Advisor (F&EA)
Telecom Regulatory Authority of India,
Mahanagar Door Sanchar Bhawan,
JawaharLal Nehru Marg,
New Delhi – 110 002.

Subject: Response to Consultation Paper on Licensing Framework for Establishing Satellite Earth Station Gateway

Dear Sir,

This is in reference to TRAI's Consultation Paper on Licensing Framework for Establishing Satellite Earth Station Gateway dated 15.11.2021.

In this regard, please find enclosed our response for your kind consideration.

Thanking You,

Yours' Sincerely,
For Bharti Airtel Limited

A handwritten signature in blue ink that reads 'Rahul Vatts'.

Rahul Vatts
Chief Regulatory Officer

Encl: a.a



Airtel Response to TRAI Consultation on “Licensing Framework for Establishing Satellite Earth Station Gateway”

Preamble:

At the outset, we thank the Authority for initiating consultation on the licensing framework for establishing Satellite Gateway Earth Station in India. We believe this is the time to give fillip to the space communications framework, with future-fit policies.

The Government of India is already working towards finalization of the new Spacecom Policy, a positive step to enable private participation in the domain of Indian space activities. **The historic reforms for re-invigorating India’s Space Agenda has been initiated by Hon’ble Prime Minister and such forward looking policy initiatives would boost Satellite broadband services thus supporting the vision of Digital India.**

The entire bedrock of Digital India platform is ‘connectivity’. In effect, true Digital India means better connectivity for all, in both urban and rural areas, leaving no one behind. The areas where broadband coverage is still an issue and/or is a matter of grave economic or geographic challenge, even the Terrestrial backhaul can be very costly to cover distances and no one solution may be able to deliver on the needs. This means finding a solution that plays a complementary role to terrestrial networks in bringing coverage and connectivity.

This is where emergence of Low Earth Orbit (LEO) satellite systems are set to play key role in a multi-network broadband ecosystem, in a complementary way to terrestrial telecommunication solutions. This is also aligned with the vision of National Digital Communications Policy wherein use of complementary technologies has been visualised for achieving broadband targets of the country.

Since the endeavour of the government has been to open the space segment to newer opportunities and investments, it is required that the licensing and regulatory regimes are simplified and optimised.

Among aspects that need simplification is installation of gateway earth stations by satellite operator, and this may ideally be a License Authorization under the provisions of Section 4 of Indian Telegraph Act, 1885, with a notional license fee much like the present IFMC Authorization. To further facilitate the proliferation of new Satellite technologies, the regulatory regime should also ensure no worse off to existing licensees in case they wish to migrate to new regime

Airtel Response to TRAI Consultation on “Licensing Framework for Establishing Satellite Earth Station Gateway”

To that extent, a satellite operator should have the opportunity and flexibility to simply seek earth station installation permission without any need to mandatorily obtain a service license. Further, enabling policies need to be enacted, such as administrative allocation of spectrum and simplified compliance requirements.

This will ease the need of unnecessary compliances and reduce the cost burden on a Satellite Gateway operator, while ensuring more investments into the sector.

Accordingly, we provide our response to the questions raised by TRAI.

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.

Response: Yes, the Gateway Earth Station (GES) licensing should be delinked with service licensing. This approach would have following advantages:

- It will introduce simplified regime for the setting-up of GESs which have become more complex to set-up and manage due to the advent of new satellite technologies like HTS, LEO and MEO.
- Align India’s satellite and gateway licensing with the global regimes¹
- Encourage Low Earth Orbit (LEO) satellite operators to establish denser ground infrastructure, and investment into satellite based resources
- Enable operator desirous of offering *only* the wholesale capacity to Telcos / Enterprises without the burden of service license obligations
- Hasten rollout of satellite based network infrastructure necessary for proliferation of satellite based communication services across the country.

In case any entity wants to offer end-user service / retail services, it may apply and obtain the respective service license (e.g. NLD/GMPCS etc.) wherein, it is permitted to set up gateway operations under the service license.

¹ “...Many of the administrations separate the Earth Station operation and the service provisioning. Most of the administrations have the provision for a separate Earth Station license. Spectrum gets assigned for the Earth Station operation based on an individual authorization/license...” See Para 2.26 of this Consultation Paper

Airtel Response to TRAI Consultation on “Licensing Framework for Establishing Satellite Earth Station Gateway”

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.

Response: We recommend a separate *Satellite Gateway Earth-station Authorization* under Section 4 of the Indian Telegraph Act, should be introduced for setting-up of GES, as it will involve establishment and operation of active telecom equipment and allocation of spectrum.

Since an earth station installation license would not confer any right to sell services to end users, we recommend that **techno-commercial obligations should be simple and cost effective in order to encourage ease of doing business & ensuring investments**. Accordingly, *we recommend that Satellite Gateway Earth-station Authorization* should be modeled on the lines of IFMC service authorization, and given a notional license fee of Re 1/-.

The scope of the Authorization should enable Gateway operator to create and provide infrastructure and its necessary resources (e.g. spectrum) necessary for setting up the gateway infrastructure under the scope. The application for such authorization should include information such as ITU filling information of the satellite, coordination status of the constellation with systems preceding it in Master International Frequency Register (MIFR).

Various levies and charges like NOCC etc. should be in the form of a single, simple uniform low rate of levy, to recover only the cost of administering the authorization.

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

Response: The GES operator should be a locally incorporated entity in India and demonstrate either its relationship with the satellite operator or that it has partnership agreement with the operator. This will be at par with the Service License requirements where operators are required to be Indian entities. Also, the Satellite System should be fully coordinated with Space Regulator IN-SPACEe & with the DoT in accordance with ITU processes.

Airtel Response to TRAI Consultation on “Licensing Framework for Establishing Satellite Earth Station Gateway”

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?

Response: With creation of this new GES Authorization; the GES operator and the Service licensee will all be licensed accordingly. The satellite operator would have to seek authorization of IN-SPACE in any case.

The agreement between earth station operators, satellite operators and service licenses should be left to market forces and not regulated.

We are of the view that once enabling provisions for GES are introduced there will be enough competition and choices for service providers to access the satellite bandwidth.

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.

Response: Since the baseband unit is an integral part of the ground infrastructure and necessary element of the earth station, it should be allowed to be installed by GES operator as and when necessary. Moreover, GES will be authorized under the provisions of Indian Telegraph Act, thereby empowering it to own, establish and operate any active equipment required for operating a GES.

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.

Response: We recommend that the necessary amendments may be made in the scope of respective service licenses to facilitate 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.

Airtel Response to TRAI Consultation on “Licensing Framework for Establishing Satellite Earth Station Gateway”

Further, there may be entities operating under a service license currently in absence of a separate GES Authorization (which would have served their purpose), such entities holding service licenses should be provided a *migration path* if it wishes to move to GES only Authorization. Such migration should be allowed at no worse-off conditions.

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.

Response: It must be noted that Gateway Earth Station sharing is not technically feasible since these are specifically purpose built for particular satellite constellation (e.g. different LEO constellations), and hence, every satellite operator will have to build their own gateway. Hence we do not see any rationale in permitting GES sharing.

However, satellite earth station operator should be allowed to serve multiple service licensees (and vice versa: allowing local licensees to access all possible satellites) to ensure maximum capacity utilisation over India and choice to end consumers on the service provided.

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.

Response: Under the new GES Authorization, the entity obtaining GES Authorization should also be holding the spectrum as well, to ensure most efficient usage of the spectrum.

Considering that a service licensee will only use the capacity provided by the earth station operator, and hence they should not be managing the spectrum. The TRAI itself in its consultation paper highlights² that international scenarios show that the spectrum gets assigned to the GES operator for Earth Station operation.

² “In the International Scenario, it has been observed that many of the administrations separate the Earth Station operation and the service provisioning. Most of the administrations have provision for a separate Earth Station license. Spectrum gets assigned to the Earth Station licensee for the Earth Station operation based on an individual authorization /license...” See para 3.10 of this Consultation Paper

Airtel Response to TRAI Consultation on “Licensing Framework for Establishing Satellite Earth Station Gateway”

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

Response: Assignment of spectrum for establishing satellite Earth Station should be allocated Administratively, on a case by case basis since those are used only at very specific locations rather than a nation-wide assignment. Typically, a LEO satellite operator may require only 2-3 GW locations across the country.

Just to explain, Spectrum is a requirement only for the small perimeter of the gateway landing stations and unlike terrestrial network, this is not used all over the geographical region of the country. Since this assignment of orbital /spectrum resources for satellites is globally coordinated at ITU level, and given administratively world over, the same priority and methodology should also be followed by the Indian administration.

The TRAI itself observes³ that in the international scenario, for the purpose of Earth Station license - most administrations assign spectrum administratively.

The above is also necessary to encourage this nascent sector to bridge the huge connectivity gap which exists in the country today.

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

Response: The cost for NGSO gateway spectrum should be determined in a simple & transparent manner and be aligned with the fact that such spectrum is being used only at few locations by GES operator. TRAI has itself noted in the Consultation Paper that Internationally, in most of the administrations, spectrum for Earth Station license is charged as an administrative fee generally to cover the administrative costs.

Various countries have adopted a gateway “system” licensing approach. For example, the US considers that “Multiple antennas in an NGSO FSS gateway earth station complex located within an area bounded by one second of latitude and one second of longitude may be regarded as a single

³ See para 3.19 of this Consultation paper

Airtel Response to TRAI Consultation on “Licensing Framework for Establishing Satellite Earth Station Gateway”

earth station for purposes of coordination with terrestrial services.” Recently, Australia has adopted such approach as well.

Given one of the primary objectives for LEO broadband is to serve the currently unconnected and underserved population, higher operation cost will lead to higher price and lower penetration. For this reason, it is proposed the spectrum is assigned be kept on a simple administrative basis

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

Response: As indicated in our response to Q.6 above, we reiterate that the Authority should recommend migration path be given for existing service licensees to move towards the new GES Authorization, and at no worse-off condition. If any service licensee chooses to retain existing full service license (e.g. UL/NLD/GMPCS), it should have the flexibility to operate GES under that license.
