Friday, 23rd April, 2021

Kind Attn: **Shri S.T.Abbas**
Advicor – Network, Spectrum & Licensing
TRAI, Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg
New Delhi – 110 002

Dear Sir

After Compliments!!!

I undersigned J.Mahiban fishermen with fisheries background for more than 38 years in various capacities, started with fishing boats and ventured in to deep sea fishing based at Visakhapatnam AP State, Fishery consultant in various countries, Seafood exporter, deep-sea fishing vessel builder with class approval and exporter of deep sea fishing vessels from our country.

During my visit to other countries I found fishermen were enjoying all the connectivity benefits of Satellite communications due to this per capita of the fishermen were considerably increased.

Sir, we are new to this domain and we know the benefit of satellite communication to fishing vessels in our country, we are also working closely with BSNL and Nelco for the benefit of fishermen for satellite connectivity. While thanking you for this consultation, I hereby submit a view and request your good self may consider.

TRAI Consultation Paper on Satellite based connectivity for IoT
Chapter 4 - Issues for Consultation

Q1. There are two models of provision of Satellite-based connectivity for IoT and low-bit-rate applications — (i) Hybrid model consisting of LPWAN and (ii) Direct to satellite connectivity.

(i) Whether both the models should be permitted to provide satellite connectivity for IoT devices and low-bit-rate applications? Please justify your answer.

Ans:

Yes, both the models should be permitted, as many different requirements would need use of both - Hybrid model as well as direct-to-satellite connectivity. For example, a vehicle engaged in logistics operations might need use of hybrid model inside their Depot / warehouse (where satellite signals may not reach), while direct-to-satellite connectivity would be needed during road travel.

(ii) Is there any other suitable model through which the satellite-based connectivity can be provided for IoT devices? Please explain in detail with justifications.

The third model could be a hybrid model consisting of Satellite connectivity with supplementary GSM connectivity. Wherever, GSM signal is available, the connectivity from GSM Network can be extended in other cases the connectivity from satellite will work.

Q2. Satellite-based low-bit-rate connectivity is possible using Geo Stationary, Medium and Low Earth orbit Satellites. Whether all the above type of satellites should be permitted to be used for providing satellite-based low-bit-rate connectivity? Please justify your answer.

ANS:

Yes, all types of satellites may be permitted making the connectivity technology neutral.

Different applications might need use of different satellite configuration. Flexibility in this regard would permit the satellite operating companies to come up with various innovative approaches.

Q3. There are different frequency bands in which communication satellites operate such as L-band, S-band, C-band, Ku-band, Ka- band and other higher bands. Whether any specific band or all the bands should be allowed to be used for providing satellite-based IoT connectivity? Please justify your answer.

ANS:

All the frequency bands may be permitted making the connectivity spectrum neutral, depending upon his system design and possibility of international coordination of the system.

Q4 (i) Whether a new licensing framework should be proposed for the provision of Satellite-based connectivity for low-bit-rate applications or the existing licensing framework may be suitably amended to include the provisioning of such connectivity? Please justify your answer.

ANS:

A new licensing framework, similar to IFMC service, may be proposed to include the provision of Satellite-based connectivity for low-bit-rate applications**.** The authorisation may be issued to any company which has an agreement with VSAT Licensee. In case any company wants to set up the satellite network, he may be permitted to take a separate licensee for Satellite based IOT service. The new licensing frame work is made as light touch.

(ii) In case you are in favour of a new licensing framework, please suggest suitable entry fee, license fee, bank guarantee, NOCC charges, spectrum usage charges/royalty fee, etc.

ANS:

In case any company partners with VSAT licensee then license fee of only Rs.1 may be charges per annum as done in case of IFMC. In case, any company takes separate license, the following charges are proposed to be levied:

Application Fee	Entry Fee	FBG	LF*	SUC	NOCC Charges
Rs. 5000/-	Rs.1,00,000/-	Rs. 2,00,000/-	3 %	1 %	Nil

*Note: The license fee may not include the USOF levy, as these services are mainly for remote areas.

Q5. The existing authorization of GMPCS service under Unified License permits the licensee for provision of voice and non-voice messages and data services. Whether the scope of GMPCS authorization may be enhanced to permit the licensees to provide satellite-based connectivity for IoT devices within the service area? Please justify your answer.

We propose a new licensing framework, for IOT Services as mentioned in question 4.

Q6. Commercial VSAT CUG Service authorization permits provision of data connectivity using VSAT terminals to CUG users.

We propose a new licensing framework, for IOT Services as mentioned in question 4.

(i) Whether the scope of Commercial VSAT CUG Service authorization should be enhanced to permit the use of any technology and any kind of ground terminals to provide the satellite-based low-bit-rate connectivity for IoT devices?

We propose a new licensing framework, for IOT Services as mentioned in question 4.

(ii) Whether the condition of CUG nature of user group should be removed for this authorization to permit provision of any kind of satellite-based connectivity within the service area? Please justify your answer.

Ans: No comments

Q7. (i) What should be the licensing framework for Captive licensee, in case an entity wishes to obtain captive license for using satellite-based low-bit-rate IoT connectivity for its own captive use?

ANS:

The licensing frame work may be same for all types of licensees.

(ii) Whether the scope of Captive VSAT CUG Service license should be modified to include the satellite-based low-bit-rate IoT connectivity for captive use?

ANS:

We propose a new licensing framework, for IOT Services as mentioned in question 4.

(iii) If yes, what should be the charging mechanism for spectrum and license fee, in view of requirement of a large number of ground terminals to connect large number of captive IoT devices?

ANS:

The charging mechanism for spectrum and licensee fee is to be made on AGR basis. For computation of Adjusted Revenue (AGR), the following methodology may be made applicable:

i. As per the present practice for VSATs**,** SUC and License fee are payable on AGR basis which includes satellite BW, backhaul link cost , Internet bandwidth charges and VSAT equipment cost including any other equipment provided as part of VSAT network i.e. PCs, Routers, LAN equipment, software etc. It includes even the revenue earned from scrapped equipment and AMC charges.

ii. The transponder charges received from customers (VSAT users) is a Revenue of pass through nature actually passed on to satellite operator i.e. ISRO. In fact, these charges are paid to Satellite operator - ISRO in advance. Therefore, these charges need to be deducted from gross revenue as being done for revenue passed to other service providers. Similar is the case for equipment cost.

iii. The entire income from trading of user terminal, AMC Charges and other equipment sold and, transponder charges billed to end users etc. need not to be taken as revenue for calculating AGR of the network. Maximum 10 % cost of these items may be taken as revenue, as Operators may earn, maximum 10 % profit from these services.

Q8. Whether the scope of INSAT MSS-R service authorization should be modified to provide the satellite-based connectivity for IoT devices? Please justify your answer.

ANS:

MSS-R is a separate authorization for one way messaging service. For IOT separate license / authorisation is proposed. As per DOT website, against MSS-R, only one license has been issued by DoT till date and that is also inoperative due to non-issue of space segment. Hence, there is a need to have separate license / authorisation for Satellite based connectivity for IOT services.

Q9. (i) As per the scope mentioned in the Unified License for NLD service Authorization, whether NLD Service providers should be permitted to provide satellite-based connectivity for IoT devices. (ii) What measures should be taken to facilitate such services? Please justify your answer.

ANS:

The NLD service authorization is basically for transport network, and not for reaching the end customer / user directly, which is part of Access Service authorization. Hence, NLD operators may obtain separate authorisation for this service.

Q10. Whether the licensees should be permitted to obtain satellite bandwidth from foreign satellites in order to provide low-bit-rate applications and IoT connectivity? Please justify your answer.

ANS:

Yes please, the licensee may be permitted to obtain satellite bandwidth from foreign satellites also, subject to the non-availability of satellite capacity from ISRO.

Q11. In case, the satellite transponder bandwidth has been obtained from foreign satellites, what conditions should be imposed on licensees, including regarding establishment of downlink Earth station in India? Please justify your answer.

Ans:

In such case, the licensee may be asked to set up a satellite gateway for accessing the satellite, in India.

Q12. The cost of satellite-based services is on the higher side in the country due to which it has not been widely adopted by end users. What measures can be taken to make the satellite-based services affordable in India? Please elaborate your answer with justification.

The following measures may be taken to make the satellite-based services affordable.

a) The satellite capacity lease charges to be reduced
b) The spectrum charges (SUC) be on AGR basis
c) NOCC charges may be waived off
d) The Licence fee must not be included the USOF levy, as the services will be mostly utilised in remote areas.

Q13. Whether the procedures to acquire a license for providing satellite-based services in the existing framework convenient for the applicants? Is there any scope of simplifying the various processes? Please give details and justification.

The present procedure for acquiring a licence for satellite based services is quite cumbersome and time consuming. It needs to be simplified for growth of these services. The following steps are suggested: -

1. Telecom operators are permitted to hire satellite transponder bandwidth from private satellite operators (open sky policy).
2. Procedure for approval of satellite networks needs to be simplified. At present initially case is analysed by APEX Committee of DoT. Then, DoT licensing cell issues license for service. Thereafter NOCC clearance is required and again operating license is to be obtained for VSAT service from WPC. Issuance of operating license by WPC is redundant. Monitoring by NOCC will be sufficient once DoT issues license. This will encourage and fulfil the objective of Govt. i.e. ease of doing business in India will be encouraged rather than license raj i.e. involvement of multiple departments / agencies / units for the same purpose can be minimized. All the process must conclude within three months' time.
3. Requirement of operating license from WPC may be done away with for remote terminals i.e. user devices.
4. Exemption from SACFA clearance for users terminals
5. NOCC monitoring charges need to be exempted.
6. Provisional allocation of satellite transponders capacity needs to be done and charging to be started after start of services.

Q14. If there are any other issues/suggestions relevant to the subject, stakeholders are invited to submit the same with proper explanation and justification.

Ans: The following other issues are relevant:

a) The guidelines for Lawful interception for this service are also to be issued separately, keeping in view of the nature of service. The existing guidelines of LIM for GSM / Internet etc, may not be made applicable for this service.
b) The requirement of Import license for import of user terminals or any other device for providing this service is to be waived-off.
c) Methodology for AGR calculation to be defined separately by not taking into account the cost of UTs, satellite bandwidth charges etc. to be realised from customers for computation of the AGR.

d) Fisheries is one among the large user, licencing fees and other charges are to be considered

Thanking you

Kind Regards

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