

**Tatanet Services Ltd. / Nelco Ltd. Response to Telecom Regulatory Authority of India
Consultation Paper on 'Provision of Cellular backhaul connectivity via Satellite through
VSAT under Commercial VSAT CUG Service Authorization'**

Q1 : Keeping in view the connectivity requirements in remote and difficult areas, should the Commercial VSAT CUG service provider be permitted to provide backhaul connectivity for mobile services and Wi-Fi hotspots via Satellite? Please justify your answer.

Tatanet Services Ltd / Nelco Ltd Response : Yes. The need for connecting the rural areas is established and is proven. However, the best media to provide a reliable connectivity to rural and difficult areas is through VSAT connectivity. In order to bring these areas under mainstream connectivity -

- a. The cost to deliver the solution should be affordable
- b. The Satellite & Ground station resources should be effectively utilized
- c. Existing expertise in the Satellite industry should be made use of
- d. License to providers should be simplified

By permitting the VSAT CUG service providers to provide Backhaul connectivity for mobile services and Wi-Fi hotspots, all the above points will be achieved. VSAT CUG providers have experience and providing Backhaul Connectivity is just another application that would be added in their offerings.

Moreover, the VSAT industry has expertise in providing connectivity in rural areas. By allowing this, the expertise of VSAT industry can be tapped in for provisioning of backhaul services to deliver the basic telephony services in rural areas of the country thus enabling Digital India Mission.

Q2 : Whether the scope of Commercial VSAT CUG Service Authorization be enhanced under both Unified License and UL(VNO) license to enable the provision of the said backhaul connectivity? Please justify your answer.

Tatanet Services Ltd / Nelco Ltd Response : Yes. As explained in question 1 above, by enabling these provisions, VSAT service providers can provision backhaul services for mobile and Wi-Fi hotspots enabling service providers to reach the remotest part of the country to provide telecom services.

Q3 : Should the licensee having authorization for both Commercial VSAT CUG and NLD services be allowed to share VSAT Hub & VSAT terminals for the purpose of providing authorized services? Please justify your answer.

Tatanet Services Ltd / Nelco Ltd Response : Yes. As explained in question 1 above, by allowing to share VSAT Hub & VSAT terminals for the purpose of providing authorized services, the resources can be utilised efficiently thus reducing the cost per unit for provisioning of backhaul services. This would result into lower per unit cost to end customers.

Q4 : Whether the licensee should be permitted to share its own active and passive infrastructure for providing various services authorized to it under the other service authorization of UL and/ or other licenses?

[In other words, whether clause 4.3 of Chapter -VIII (Access Service authorization) be made applicable for all other authorizations also]

Is there a need to impose any restrictions? Please enumerate and justify your answer.

Tatanet Services Ltd / Nelco Ltd Response : By allowing the licensee to share its own active and passive infrastructure for providing various services authorized to it, there will be optimized usage of the available resources. The service providers should be allowed to use not only the Active & Passive infrastructure on ground, but should also be allowed to share the Satellite Spectrum for providing various services authorized to it under the other service authorizations. The Satellite Spectrum is scarce and finite hence most optimal utilisation of resources across services will reduce the wastage and reduce per unit cost. This will also enable service providers to offer new services without worrying about the sharing of active and passive infrastructure.

Q5 : Whether formula-based spectrum charging mechanism for VSAT services in NLD/Access license is adequate and appropriate? If not, whether spectrum charging for VSAT services in NLD/Access service license should be made on AGR basis instead of existing formula basis mechanism? Whether it will require accounting/ revenue separation for satellite based VSAT services under NLD/Access license? Please elaborate and provide proper justification.

Tatanet Services Ltd / Nelco Ltd Response : Spectrum charging for VSAT services in NLD/Access service license should be made on AGR basis instead of existing formula basis mechanism. To simplify the process and the services, the license fees for providing VSAT based Backhauling services should be AGR basis instead of existing formula basis mechanism. It will not require any accounting / revenue separation for satellite based VSAT services and much easier to administer both for service provider and DoT.

Q6 : Please give your comments on any related matter not covered in this Consultation paper.

Tatanet Services Ltd / Nelco Ltd Response :

- a. We suggest that the scope of the Commercial VSAT CUG Service Provider should also be extended to include backhaul / last mile for PSTN connectivity
- b. With the advancement in the Satellite technologies, new generation satellites in the HTS, LEO & MEO are currently operational / getting operational. The infrastructure and architecture of these new generation system(s) are quite different from traditional satellites hence require a relook into existing policies/framework to accommodate these upcoming technologies for wi-fi and cellular backhaul and VSAT CUG service provisioning.