Re: **Comments on the Consultation Paper dated 20th August 2019 on "Enabling Unbundling of Different Layers through Differential Licensing"**

From: **Dua Consulting**

Date: **October 30, 2020**

Introduction

1. The present licensing regime comprising of the Unified License (**UL**), Infrastructure Provider-1 Registration (**IP-1**) and the Unified License (Virtual Network Operator) License (**UL-VNO**) is an all-inclusive framework for the provision of telecommunication services in India. Some of the important milestones of telecom regulations and arrangements in order to reduce input capital cost of telecom access service providers towards fixed infrastructure, thereby facilitating further reduction in tariff and to enhance the tele density are as follows:

(a) Sharing of active infrastructure amongst Service Providers based on the mutual agreements entered amongst them is permitted. Active infrastructure sharing, limited to antenna, feeder cable, Node B, Radio Access Network (RAN) and transmission system only, was permitted. Sharing of the allocated spectrum will not be permitted.

(b) Infrastructure Providers (IP) Category-I were allowed to seek clearance for erecting towers with or without agreement with licensed service providers;

(c) To provide incentives on the infrastructure sharing in the urban areas, State Governments were requested to charge same amounts for setting up of the shared tower, irrespective of the number of Service Providers sharing the same tower at par with unshared tower.

(d) Under Unified License (UL) policy, Virtual Network Operators (VNOs) were created to exploit the benefits of convergence, spectrum liberalization and facilitate delinking of the licensing of networks from the delivery of services so as to enable the Telecom Service Providers (TSPs) to optimally and efficiently utilize their networks and spectrum by sharing active and passive infrastructure.

2. Ideally, all levels of unbundling barring access services should be supported. Access is what is really licensed since it faces the customer, collects revenues, which is a custodian of payment of statutory dues. Sharing of access infrastructure could result in conflict, loss in revenue and sharing of vital responsibilities. A cost-effective method of further regulation must be established to allow overall investments in the telecom sector and provided the incumbents do not panic. The

late entry of one in the market should not be a deterrent for market access and sure enough he can provide good competition to existing players by technical superiority and new business approaches.

Responses

Our responses to the questions posed in the Consultation Paper are stated below:

Q1. Do you agree that in order to attract investment and strengthen the service delivery segment, Network services layer and Service delivery layer needs to be separated by introducing specific license for Network Layer alone? Please justify your answer.

1.1 It is now essential to reform the existing licensing and regulatory regime and promote ease of doing business by enabling unbundling of different layers (infrastructure, network, services and applications layer). Telecom operators should provide "non-discriminatory" and transparent network and infrastructure elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and non- biased.

1.2 The licensing approach makes the market a monopolistic domain due to the barrier of high investment for any investor. The current regime of telecom licenses, through allows service delivery under the regime of VNO, its practical application has been only limited to few instances. A separate network layer investment will increase the network availability, reliability and can be transparently used by all Service providers and drawn from the shared pool of high availability services. Allowing unbundling of network services will also enable many small investors to fuel the investment and market needs of the diverse Indian market.

1.3 Network service layer, fibre and transport network optimisation by operators like PGCIL Railtel, Gailtel etc has immensely helped the TSPs in providing a resilient service with a very unique offering of OPGW / fibres buried along the railway tracks or along the gas / transportation pipelines. This arrangement needs to be enhanced to be able to create super highway equivalent and that could be used by all UL operators. UL/ NLD/ILD operators for capacity/ bandwidth on demand

1.4 This approach would enable optimised capex planning by such passive network provider but at the same time would enable a very strong annuity based business and therefore will propel the investment in in the network which will enhance the overall network quality and eliminate duplicate of resources.

1.5 The current UL may be divided into three parts:

(a) Passive and Active Network

The DOT allows unbundling of passive network by virtue of registration under IP-1 category. TRAI recently invited public comments and recommended earlier in 2020 to the DOT, that the

enhancement of the scope of the IP-1 service providers, may be further done to include active infrastructure, to facilitate further investments savings of the TSPs and avoid duplication of the telecom resources.

(b) Core network

Spectrum sharing was of utmost importance to ensure optimal utilization of the available spectrum. The basic objective of spectrum sharing is to enhance spectral efficiency by combining/pooling the spectrum holding of two licensees. The gain in spectral efficiency increases non-linearly with the quantum of spectrum.

(c) Service Delivery Layer

DOT already allows service delivery layer in the form of UL- VNO licenses. The service delivery, while may be covered in this category, inputs from VNO stakeholders must be taken to enhance the flow of delivery service layer, and various requirements may be eased down for a provider with VNO service as opposed to Unified license.

Thus, in our view, the network delivery layer and the service delivery layer should be demarcated for better efficiency and optimum utilisation of resources.

Q2. Should the Network Services Layer licensee be permitted to take the Service Delivery Category licenses and provide the service? If yes, what kind of restrictions and safeguards are required to be built, in order to protect the competition and innovation in service delivery segment? Please justify your answer.

2.1 Yes, the Network Services Layer should be permitted to take the Service Delivery Category licenses, as is currently permitted under the Unified License regime should continue. Imposing restrictions on the existing regime would not be feasible and is a business call for companies.

2.2 However, those that are exclusively in the Service Delivery Layer, or Network Delivery Layer must have fair, reasonable, transparent and non-discriminatory access to the other corresponding layer for providing the services on equal footing as integrated players/service delivery entity.

2.3 The Regulatory framework and compliances for specified layered services should be made with a light touch approach and must ensure that competition and innovation is protected in the Service delivery, and Network layer.

2.4 Expenses such as the License Fee, Financial Bank Guarantees, Spectrum Usage Charges, AGR should not be charged twice from different layers so that new layer operators have an incentive to offload or separate the Service Delivery from Network service for new providers and foreign investors.

Q3. Whether certain obligations should be imposed on the existing Unified Licensees, and other measures should be taken to encourage UL licensees to provide their network resources to VNO licensees particularly in mobile service segment? Please suggest the measures in detail.

3.1 In order to ensure fair competitive practice for layer telecom services, the DOT/ TRAI must frame yardsticks of ensuring non-discriminatory access to telecom resources, in order to prevent or reduce the barriers to entry by various and avoid monopolistic practices.

3.2 We do not solicit making it mandatory for TSP to have an engagement with a VNO which has led to this situation as determining any such number should be on the prerogative of the network provider on the condition that the yardsticks laid out by DOT/TRAI are met. Network operators can monetize their idle resources and in peak usage times serve their customers with a higher rate. Finally, the concept of purchasing assured capacity-on demand at small granularity can support novel, revenue-generating applications, which require deterministic delivery of network capacity to operate correctly.

3.3 Monetary compensation to old market operators (UL operators)- Marketplace is proposed to allow multiple network operators to utilize a passive optical network infrastructure and reuse others' under-utilized capacity. This marketplace may provide monetary compensation/ and subsidy or waiver of certain part of their dues to the operators who share their excess transmission opportunities. The market assumes an ownership model where an infrastructure provider owns the entire passive network and allocates a certain capacity to the virtual network operators, which can trade their excess capacity among them. Network operators can monetize their idle resources and in peak usage times serve their customers with a higher rate. Finally, the concept of purchasing assured capacity-on demand at small granularity can support novel, revenue-generating applications, which require deterministic delivery of network capacity to operate correctly.

3.4 Competitive Markets- The auction mechanism should be in parts, diverse and economically robust in order to prevent instances of manipulative trade. In case of multiple bidders agreeing at the same price, drawing may be done by lots or in parts to multiple institutions. The industry should be friendly to accommodate newly established networks, and the Quality of Service Parameters should be non-compromised for per existing and new entities alike. Further, government representation may be made, and telecom operators who are not willing to share networks shall be penalized, or may be required to pay a surge for not sharing resources. All operators, leased line, as well as infrastructure owning should declare their utilized and available resources with the DOT on an annual basis in order to ensure constructive sharing.

3.5 Bilateral trading- The application of Blockchain in the creation of machine to machine service and resource marketplaces must be addressed and a blockchain solution for network slice brokering in 5G networks followed internationally may be taken as a cue to the Indian regulations. A blockchain-based distributed bilateral trade mechanism may be introduced where technology companies may leverage their cutting edge techniques with telecom operators as a part of non-disclosure agreements and in order to promote two competitive or complementary

structures. The bilateral trade could also be in the nature of liberal models of sharing such as multiple input multiple output for operating in testing and bifurcating resource allocation, mobile crowd sensing, spectrum sharing, and passive/ active network sharing among registered entities with due tracking mechanism in an untrusted environment. Commercial terms for sharing of the in-building telecom infrastructure system, may be decided by the provider-TSP. However, the same shall be done in transparent, fair and non-discriminatory manner.

3.6 Procedural amendments: There must be a distinct guideline addressing taxability of such agreements, adjustment of under paid or excess paid license fee, and a timeline for implementation of the guidelines. Also, the technical opinion of the stakeholders should be seen in order to address the current roadblocks.

Q4. In case network layer and service delivery layer are separated by creating separate category of licenses, as proposed in Q1;

a) What should be the scope for Network layer license and Service Category licenses?

i. While the Network layer should be a licensed activity, the service category should be a simple registration with the DoT. The license terms should be applicable only for the Network Service Provider (MNOs) utilizing the national resource of Spectrum and are subject to such obligations associated with the Network. They should also provide time bound unhindered non discriminately access to their networks to the prospective VNOs.

ii. Proper checks and monitoring and audits need to be in place to avoid any discrimination and anti-competitive behaviour towards VNOs or any niche providers. The services delivery providers should be subjected to a simple registration with DoT similar to the IP-1 Registration which is very successful since its inception since last few years. Any special obligations for the service delivery providers should be elucidated additionally as part of their registration itself.

b) Out of various responsibilities and obligations enumerated in Unified License, what should be the respective responsibilities and obligations of Network layer licensees and Service delivery category licensees? Please elaborate with justifications.

A balanced approach of the need of the hour and the following key principles should be adhered to:

i. Designing and regulating unbundled ownership models should be a key policy priority to ensure cutting-edge technology, making India a powerhouse of the telecom industry and cater smooth deployment of 5G networks.

ii. More research is needed to determine the business implications of the new ownership models, presumably utilizing novel approaches such as artificial intelligence and smart contracts and assessing the potential for other network component/function virtualization opportunities to

enhance the flexibility of the shared access will be the key factor in making a market supportive law.

iii. Further study of the pain points of the Telecom service providers and roadblocks of prospective applicant and telecom start-ups may be relevant to make guidelines more in line with the requirements.

c) What mechanism should be put in place to regulate the access to network services of Network layer licensees by the service delivery Category licensees? Whether certain obligations should be imposed on Network layer licensees to provide the network resources in a time-bound, transparent and non-discriminatory manner?

i. Certain mandatory obligations or yardsticks should be imposed DOT/ TRAI for ensuring non-discriminatory access of telecom resources to the network which is providing access to spectrum a natural resource of the country in a time-bound, transparent and non-discriminatory manner to the service delivery providers.

ii. India already has similar provisions of mandate for the Submarine Cable Station Access providers to provide time bound unhindered access to all the Licensed ILDOs. It is working very well since its inception and all the licensed entities have the unhindered access to the National Natural Resource.

iii. This marketplace for unbundling or sharing of resources may provide monetary compensation/ and subsidy or waiver of certain part of their dues to the operators who share their excess transmission opportunities. The market assumes an ownership model where an infrastructure provider owns the entire passive network and allocates a certain capacity to the virtual network operators, which can trade their excess capacity among them. Network operators can monetize their idle resources and in peak usage times serve their customers with a higher rate. Finally, the concept of purchasing assured capacity-on demand at small granularity can support novel, revenue-generating applications, which require deterministic delivery of network capacity to operate correctly.

d) What incentives (for example, lower license fee, lower SUC, etc.) could be provided to Network Layer licensees in the new unbundled licensing regime to encourage the investment in the Network layer? Please justify your answer.

The cost of spectrum is derived through the open auctions at market driven competitive prices therefore there is no need to keep on charging on the basis of the legacy Revenue Sharing Regime. Low License fees/Low Spectrum User Charges will provide immediate incentives to the Network Layer licensees along with a pro-active regulatory framework , which will assist them to set up the network fastidiously and commence services without loss of any time. Being the vital infrastructure of the country, the whole economy is dependent on the telecom infrastructure. Advent of new Digital Technologies and AI making the industry to improve its production and compete Globally.

However, with not many years since the draft of the existing licensing regime, amends may be done to ensure unbundling of resources by TSPs, and changes may be made to the Unified License Agreement. It should also be considered that the new regulation does not rock the boat of the current licensed TSPs who have invested capital in procurement of resource, license and spectrum allocation.

e) Whether the existing Unified Licensees should be mandated to migrate to the unbundled licensing regime, or the new regime should be introduced, while keeping the existing regime continued for existing licensees till the validity of their license, with an option of migration?

All amendments to unbundling of layers may be made in the UL. The existing license regime should be retained and modified. Further, there may be new guidelines of providing unhindered mandatory and time bound access to the service delivery operators**.**

f) Whether existing VNO licensees be mandated to migrate to service delivery category licenses as per unbundled licensing regime?

Yes, the existing VNO licensees may be mandated to migrate to service delivery category registration. The settlement of license fee paid accordingly be adjusted towards the new service delivery category license.

g) Whether service delivery category licensees be permitted to parent with multiple Network Service layer licensees? Please justify your answer.

Yes, the existing service delivery category licensees should be permitted to parent to two Network Service Providers. This scenario would also need a deep examination on technical parameters of the Network by the TEC.

Q5. Any other issue related to the subject may be raised with suitable explanation and justification.

Finally, we conclude our submissions with a few insightful remarks on possible future guidelines:

i. Designing and regulating unbundled ownership models should be a key policy priority to ensure cutting-edge technology, making India a powerhouse of the telecom industry and cater smooth deployment of 5G networks.
ii. More research is needed to determine the business implications of the new ownership models, presumably utilizing novel approaches such as artificial intelligence and smart contracts and assessing the potential for other network component/function virtualization opportunities to enhance the flexibility of the shared access will be the key factor in making a market supportive law.
iii. Further study of the pain points of the Telecom service providers and roadblocks of prospective applicant and telecom start-ups may be relevant to make guidelines more in line with the requirements.