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Indus/TRAI/CPSIP1/01

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**Subject: Response to the Consultation Paper on Review of Scope of  
Infrastructure Providers Category-I (IP-I) Registration**

Dear Sir,

At the outset, Indus welcomes the opportunity provided to comment on the TRAI Consultation Paper on Review of Scope of Infrastructure Providers Category-I (IP-I) Registration dated 16<sup>th</sup> August 2019 and compliment TRAI for its efforts in bringing out this important consultation paper.

Please find attached herewith our comments for your kind consideration.

Thanking You

Yours Sincerely



**Manoj Kumar Singh**  
Chief Technology Officer and Regulatory Affairs  
Indus Towers Limited

CC: As above



## Response to TRAI Consultation Paper on “Review of Scope of Infrastructure Providers Category-I (IP-I) Registration”

### PREAMBLE

1. At the outset, we would like to thank the Authority to bring out this Consultation paper for discussion on enhancement of scope of infrastructure providers category-I (IP-I) registration as the implementation of the same is pending for a very long time. We appreciate the Authority for its constant efforts for growth of telecommunication infrastructure in the Country which carries utmost importance especially when the country is aiming to be one of the first countries deploying 5G.
2. Such efforts need to be continued in right direction for achieving national objectives and meet the exponentially growing demand for telecommunication/digital services especially for implementation of various Government programmes like Digital India, Make in India, development of Smart Cities and timely deployment of 5G etc.
3. Telecom, being a capital-intensive business, needs huge investment for growth and expansion and providing service based on new upcoming technologies. **IP-1 provide an Integrated Neutral Host Platform** that is used by diverse and often competing operators helping build a unique, scalable and successful business model for Telecom. Active sharing through a **neutral host like IP-1 would offer the network to service providers on non-discriminatory basis and service providers will focus only on providing services and improve customer experience.**
4. Active infrastructure sharing is sharing of electronic infrastructure of the network including fixed-line, radio access network (consists of antennas/transceivers, base station and controllers), transmission and core network. **The cost-saving potential of Active infrastructure/network sharing is greater than passive infrastructure sharing.**
5. Telecom service sector in India is facing a looming financial crisis. **The steep fall in revenues and ballooning debt is hurting investments in telecommunication infrastructure, networks and technologies.** Telecom infrastructure creation for rollout of new technologies viz 5G, M2M/IoT and deployment of Smart Cities, requires huge amount of investment. **Considering the present financial condition of the**

**telecom operators, we feel that the enhanced form of infrastructure sharing i.e. Active Infrastructure Sharing by IP-1 is the only way forward for the industry.**

6. Various reports and researches confirm that infrastructure sharing can bring in significant cost benefits as follows:
  - i. Ericsson predicted savings from infrastructure sharing up to 40% and cash-flow improvement up to 31%.
  - ii. Booz & Company stated that infrastructure sharing can enable operators to save 30-40% of the network costs.
  - iii. Coleago calculated that savings in roll-out CAPEX and O&M can reach up to 65% each with network sharing.
  - iv. Mckinsey study has estimated the cost reduction of up to 40%. The major cost reduction is observed in rollout of small cells.
  
7. **Active Sharing relevance for 5G** - The industry is gearing for launch of new technologies including 5G, M2M/IoT and Smart Cities wherein network will be in the form of several low distance small cells rather than grand towers/masts which will make networks even denser. According to GSMA Network Economics model, even conservative estimations predict that the number of sites will increase by 50%. **TRAI in its white paper on “Making India 5G ready” estimates the savings on account of active infrastructure sharing to the extent of 25-35% in Opex and 33-35% in Capex.**
  
8. **As the Government is gearing for 5G Spectrum Auctions within 2019 to be followed by deployment of 5G network in the country, we feel that it is right time to review the regulatory environment to make it conducive for active sharing.** In fact, the rationale for sharing extends beyond cost, as it could solve many practical roadblocks of 5G deployment in urban areas, such as the potential for urban disruption and visual pollution from the installation of excessive equipment and fiber. **Major key benefits of Active Infrastructure Sharing by IP-1s are :**
  - i. Capex and Opex saving
  - ii. Faster time to roll-out services
  - iii. Cost & Energy efficiencies
  - iv. Increased Connectivity
  - v. Reduces entry barriers and increase competition

**BACKGROUND**

9. DoT allowed IP-1 to provide Active infrastructure/ network elements vide **DoT letter dated 09<sup>th</sup> March 2009** which stated that:

*“It is to clarify that the scope of IP category providers, which is presently limited to passive infrastructure, has been enhanced to cover the active infrastructure, if this active infrastructure is provided on behalf of the licensees, i.e. they can create active infrastructure limited to antenna, feeder cable, Node B, Radio Access Network (RAN) and transmission system for and on behalf of UASL/CMSP licensees”*

10. **However, this policy was withdrawn by DoT on 28<sup>th</sup> November 2016 as a completely retrograde and regressive step** nullifying the entire purpose of increasing investment in infrastructure provisioning by IP-1.

11. **With the release of NDCP-2018, Government has cleared this anomaly and allowed provisioning of active infrastructure by IP-1.** NDCP-2018 gazette notified by the Government in Oct'2018 envisage enhancement of scope of IP-1 vide para 1.1(f) as below:

*“Encourage and facilitate sharing of active infrastructure by enhancing the scope of Infrastructure Providers (IP) and promoting and incentivizing deployment of common sharable, passive as well as active, infrastructure.”*

**Each provision in NDCP is undeniable as the same is finalized by Government after multiple consultations and deliberations with all the stakeholders.**

12. Even **TRAI also recommended to the Government for IP-1 scope enhancement** and promoting deployment of common sharable, passive as well as active, infrastructure, vide its recommendations dated 2-Feb-2018 on “Inputs for formulation of NTP-2018”.

13. **It is clear from the above that all industry and Government stakeholders unanimously agree that scope of IP-1 registration should cover both passive as well as active infrastructure** to encourage deployment of common sharable infrastructure and the same needs to be implemented at the earliest.

### **Some of Global Trends towards Active Sharing through a Neutral Host like IP-1**

- i. **New Zealand:** New Zealand’s wholesale network operator, Chorus, is calling on the Government to begin formulating plans for a single 5G mobile network, which can be shared by all service providers, as it would not be sustainable for the country’s

three mobile operators to roll out separate 5G networks due to the amount of investment needed.

- ii. **Denmark:** In 2012, Telenor Denmark and Telia Denmark have signed a managed services contract with Nokia, which will manage their shared mobile networks run by a common infrastructure company TT-Netvaerket.
- iii. **USA:** The use of independent wholesale infrastructure providers for the provision of small-cell networks has increased over the last few years. Wireless provider Crown Castle (USA), for example, increased its small-cell revenues by over 40% between 2015 and 2016 as mobile operators densify their networks ahead of 5G roll-out.
- iv. **Scotland:** In September 2017, independent tower specialist Wireless Infrastructure Group, in collaboration with Telefónica, launched Europe's first small-cell network supporting cloud RAN (C-RAN) for faster and higher capacity mobile services in the city centre of Aberdeen.
- v. **Australia:** The telcos in Australia have infrastructure sharing agreements with each other and with the main tower infrastructure providers. One of the main players within the active infrastructure sharing market is Broadcast Australia (BA). With a diverse portfolio of structures ranging from 30m to over 230m, it has the best regional and rural penetration among **Australian tower companies. Servicing not just broadcasters, it provides infrastructure leasing and related services to the majority MNOs, NBN Co., as well as other telecommunications players.**

**Our Question-wise response to TRAI Consultation Paper is as follows:**

**Q1. Should the scope of Infrastructure Providers Category-I (IP-I) registration be enhanced to include provisioning of common sharable active infrastructure also?**

**Response:**

1. **Yes, the Scope of IP-1 should be enhanced without any further delay to include provisioning of common sharable active infrastructure also** as the same is pending for a very long time.
2. In fact, **this issue should not be a matter of any further discussion as the same is already provisioned in the NDCP-2018** gazette notified by the Government of India in Oct'2018 and agreed unanimously by all stakeholders. The relevant provision vide para-1.1(f) of NDCP-2018 is as below:

*“Encourage and facilitate sharing of active infrastructure by enhancing the scope of Infrastructure Providers (IP) and promoting and incentivizing deployment of common sharable, passive as well as active, infrastructure.”*

3. Moreover, **TRAI also recommended enhancement of IP-1 scope, vide its recommendations to the Government on 2<sup>nd</sup> February 2018** regarding “Input for formulation of NTP-2018”.

**Q2. In case the answer to the preceding question is in the affirmative, then**

- i) **What should be common sharable active infrastructure elements which can be permitted to be owned, established, and maintained by IP-I for provisioning on rent/lease/sale basis to service providers licensed/ permitted/ registered with DoT/ MIB? Please provide details of common sharable active infrastructure elements as well as the category of telecommunication service providers with whom such active infrastructure elements can be shared by IP-I, with justification.**

**Response:**

1. It is recommended that IP-1 should be allowed to share the infrastructure in a non-discriminatory manner with any valid license/registration holder from any Ministry of the Government of India including DoT/MIB/MeitY who are engaged in providing any kind of digital services to the end user. This will certainly enable laying out robust infrastructure for Governmental initiatives and programs like Digital India, Smart Cities, Financial Inclusion, Digital Literacy including eEducation, eHealth, Security etc.

2. We also recommend the following **conditions for provisioning of active infrastructure/network elements by IP-1:**
  - i. IP-1 shall share the infrastructure with any valid license/registration holder from any Ministry of the Government of India including DoT/MIB/MeitY who are engaged in providing any kind of digital services to the end user.
  - ii. Operators/service providers sharing the infrastructure must utilize the same only for the services permitted under their respective license/registration.
  - iii. IP-1 will share the infrastructure with all operators on a non-discriminatory basis.
  - iv. IP-1 will not be allowed to provide services to the end user/customer directly. This will remain under the domain of service provider/operator only.
3. Further, as the concept of Core network sharing is still evolving globally due to various security related issues, especially in case of 5G, **We recommend that, as a first step, following network elements should be included in the scope of IP-1 registration immediately:**
  - i. Antenna
  - ii. Feeder cable
  - iii. Base Station (eNB, gNB, Small/Micro Cells, DAS (I/D & O/D) etc)
  - iv. Radio Access Network (incl. In-building Solution, Wi-Fi Access Points etc)
  - v. Transmission System (Microwave & OFC)

Further, any equipment/ accessories essential to provide above mentioned infrastructure/ network elements should also be allowed to the IP-1.

- ii) **Should IP-1 be allowed to provide end-to-end bandwidth through leased lines to service providers licensed/ permitted/ registered with DoT/ MIB also? If yes, please provide details of category of service providers to it may be permitted with justification.**

**Response:**

In view of various ambitious programs of the Government such as Digital India, Smart Cities, Financial inclusion etc, IP-1 should be allowed to provide dark fiber/leased-line to enable respective service providers to lit the bandwidth to enable the services to their respective customers.

- iii) **Whether the existing registration conditions applicable for IP-1 are appropriate for enhanced scope or some change is required? If change is suggested, then please provide details with reasoning and justification.**

**Response:**

1. We feel that **existing registration conditions applicable for IP-1 are sufficient even for enhanced scope as any additional infrastructure/network element being allowed under the enhanced scope would remain 'passive' and in non-operating condition until powered by a service provider.**
2. Moreover, as IP-1 are not permitted to acquire/provide services to the end customer/subscriber directly, we do not feel the need of any further regulatory obligation.

**iv) Should IP-I be made eligible to obtain Wireless Telegraphy Licenses from Wireless Planning and Coordination (WPC) wing of the DoT for possessing and importing wireless equipment? What methodology should be adopted for this purpose?**

**Response:**

1. **Yes, IP-1 should be made eligible to obtain Wireless Telegraphy Licenses from WPC wing to possess and import wireless equipment on the same terms & conditions as applicable to the service providers for necessary compliance.**
2. However, as also envisaged in NDCP-2018, process for obtaining WPC import license needs to be further simplified to facilitate and incentivize investment for faster rollout/expansion of telecom infrastructure/network.

**v) Should Microwave Backbone (MWB) spectrum allocation be permitted to IP-I for establishing point to point backbone connectivity using wireless transmission systems?**

**Response:**

We recommend that IP-1 should be allowed to own and install non-radiating MW antennas enabling licensees/service providers to establish point-to-point backbone connectivity.

**Q3. In case the answer to the preceding question in part (1) is in the negative, then suggest alternative means to facilitate faster rollout of active infrastructure elements at competitive prices.**

Not applicable in view of the response above

**Q4. Any other issue relevant to this subject.**

IP-1 should be allowed to share the passive infrastructure with any valid license/registration holder from any Ministry of the Government of India including DoT/MIB/MeitY who are engaged in providing any kind of digital services to the end user, in a non-discriminatory manner, to facilitate provisioning of various governmental programs as stated above.