

**Consultation Paper No. 05/2023**



## **Telecom Regulatory Authority of India**

### **Consultation Paper**

**on**

### **‘Introduction of Digital Connectivity Infrastructure Provider (DCIP) Authorization under Unified License (UL)’**

09<sup>th</sup> February 2023

Mahanagar Doorsanchar Bhawan,

Jawahar Lal Nehru Marg,

New Delhi – 110002

**Written comments on the consultation paper are invited from the stakeholders by 09<sup>th</sup> March 2023 and counter-comments, if any, by 23<sup>rd</sup> March 2023. The comments and counter-comments would be posted on TRAI's website: [www.trai.gov.in](http://www.trai.gov.in).**

**The comments and counter-comments may be sent, preferably in electronic form, to Shri Sanjeev Kumar Sharma, Advisor (Broadband and Policy Analysis), Telecom Regulatory Authority of India, on the email id: [advbbpa@traigov.in](mailto:advbbpa@traigov.in) with a copy to [jtadvbbpa-1@traigov.in](mailto:jtadvbbpa-1@traigov.in) .**

**For any clarification/information, Shri Sanjeev Kumar Sharma, Advisor (Broadband and Policy Analysis), may be contacted at Telephone No. - +91-11-23236119**

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# CHAPTER 1

## Introduction

- 1.1 Digital communication has become an integral and indispensable part of modern society. World is moving towards an economic system which is based on continuous and ubiquitous availability of digital information. Financial services (like banking, capital markets, and insurance) and crucial services like e-governance, tele-medicine, entertainment, online e-commerce sit atop the underlying architecture of telecom networks and services. A robust Digital Connectivity Infrastructure (DCI) contributes significantly to economic development both by increasing productivity and by providing amenities that enhance the quality of life. DCI is boosting the data economy like never before.
- 1.2 India is in the midst of a digital revolution. Digital communication will continue playing a vital and leading role in successful implementation of various Government schemes under Digital India, Make in India, Ayushman Bharat Digital Mission (ABDM), and development of Smart Cities. The convergence of digital and physical products through Machine to Machine (M2M) communication and Internet of Things (IoT) services and applications is paving the way for Fourth Industrial Revolution (Industry 4.0). It represents a transition to a new set of systems that brings together digital, biological, and physical technologies in new and powerful combinations. DCI has become the bedrock for achieving the vision of Digital India and can also be expected to play a big role in the success of the 'Make in India' initiative. With the increasing digitalization, it has become even more important. The recently launched 5G will transform India into a broadband superhighway and improve the country's socio-economic structure. 5G is expected to lead to increased data traffic, requiring existing networks to be upgraded, developing advanced infrastructure with enhanced technologies, and new ones to be built as greenfield initiatives. For any Government service delivery, dependence on digital

infrastructure platforms and applications is going to increase over time. In near future, there will hardly be any sector in which service delivery to the citizens will not be undertaken through digital media. Hence, it is imperative to ensure an omnipresent digital infrastructure and services overriding on it to achieve the socio-economic goals. Accordingly, there is need to accelerate creation of digital infrastructure and connectivity in the country.

## **A. Emphasis on DCI in National Digital Communications Policy – 2018**

- 1.3 The NDCP-2018, under the ‘Propel India’ mission (Enabling Next Generation Technologies and Services through Investments, Innovation, Indigenous Manufacturing and IPR Generation), states that *“the recent past has witnessed an unprecedented transformation in the Digital Communications Infrastructure and Services sector with the emergence of new technologies, services, business models, and players. There is, hence, an imperative need to review the existing licensing, regulatory, and resource allocation frameworks to incentivize investments and innovation to optimize new technology deployments and harness their benefits”*. The NDCP-2018 envisages “Enabling unbundling of different layers (e.g., infrastructure, network, services, and applications layer) through differential licensing” as one of the strategies for fulfilling its ‘Propel India’ mission.
- 1.4 Also, lot of emphasis is laid on digital infrastructure in the NDCP-2018 stating that *“Digital infrastructure and services are increasingly emerging as key enablers and critical determinants of a country’s growth and well-being”*. With a vision to fulfil the information and communication needs of citizens and enterprises through the establishment of a ubiquitous, resilient, secure, accessible and affordable Digital Infrastructure and Services, NDCP has envisaged three missions: Connect India, Propel India and Secure India. The ‘Connect India Mission’ advocates for *Creating Robust Digital Communications Infrastructure*. One of the strategies “1.1 Establishing

a ‘National Broadband Mission – Rashtriya Broadband Abhiyan’ to secure universal broadband access”, envisages enhancement in the scope of Infrastructure Providers in clause 1.1(f) reproduced 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.”*

NDCP- 2018 emphasizes on investments in telecom infrastructure, facilitating development of Open Access Next Generation Networks, increasing access to fixed line broadband, and fiberisation of mobile networks.

## **B. Emphasis on DCI in other countries**

- 1.5 The remarkable growth in data traffic is expected to boost development of telecom infrastructure globally. Many businesses are shifting their core businesses to cloud and hybrid digital platforms, which require robust networks for ease of accessing data within a network. As per Global Market Insights, a global market research and management consulting company, Telecom Network Infrastructure Market size surpassed USD 95 billion in 2022 and is projected to exhibit a CAGR of 6% between 2020 and 2032.<sup>1</sup> The growth drivers are mainly commercialization of 5G network, adoption of Software defined Network (SDN) infrastructure, rising smartphone penetration, increasing demand for data centers, and growing demand for private LTE networks, etc. According to the Best Practice Guidelines for Enabling Open Access adopted by the 2010 Global Symposium for Regulators, open access is defined as “the possibility for third parties to use an existing network infrastructure.” Open access when applied

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<sup>1</sup> <https://www.gminsights.com/industry-analysis/telecom-network-infrastructure-market>

to infrastructure means that all suppliers are able to obtain access to network facilities on equal terms.<sup>2</sup>

- 1.6 Globally, countries are establishing best practices for formulating regulations and administrative processes in context of digital connectivity infrastructure development. The aim is to ensure that all public authorities are aligned with the goal of DCI development and ensure friction-free achievement of the same. The study of international licensing and regulatory framework reveals that various countries have aligned their telecom regulations to attract investment and strengthen the service delivery segment by segregating the infrastructure/network layer and service/application layers. The network layer operator would offer its network to service delivery operators, thereby resulting in reduction of cost and increased utilization of resources, including spectrum. The advantage of such frameworks is that they simplify the licensing process and provide a more conducive environment for market growth and improvement of the socio-economic welfare of society while considering the convergence of technologies. Such frameworks are also conducive towards promotion of the provision of new and innovative services, reduction of prices and increase of efficiency in the provision of services, and increasing the variety of offerings for subscribers.
- 1.7 The European Commission in its Digital Single Market strategy - aims to open-up digital opportunities for people and business and enhance Europe's position as a world leader in the digital economy<sup>3</sup>. It has divided a broadband network into three layers: passive infrastructure, active equipment technology and delivery of services. The three layers depend on each other, meaning that layer 2 can only be realized upon completion of layer 1, and layer 3 requires the network from layer 2.

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<sup>2</sup> <https://www.itu.int/net/itunews/issues/2011/07/43.aspx> | Open access regulation in the digital economy | ITU News September 2011

<sup>3</sup> <https://ec.europa.eu/digital-single-market/en/broadband-business-models>

1.8 Similarly, Singapore has opted for structural and ownership separation between retail service providers (e.g., Singtel), wholesale network service provider (OpCo) and passive infrastructure provider (AssetCo) and fibre network company (NetCo) to ensure non-discriminatory access to essential passive infrastructure facilities. In Singapore, Infocomm Media Development Authority (IMDA), licensing system basically comprises of two types of licences: -

(i) Facilities-based operator (FBO) - deploy infrastructure and operate telecommunication network infrastructure

(ii) Service-based operator (SBO) - provide services over an infrastructure of FBO

1.9 ACMA (Australian Communications and Media Authority) distinguishes between the carriers and carriage service providers. Carriers or carrier providers are the owners of Telecommunications 'Network Unit' and provide the basic telecom infrastructure on which carriage and content services are supplied to the public. A carriage service provider uses carriers' facilities and does not have its own network units to provide telecommunications' services to the public.

1.10 The Malaysian Communications and Multimedia Commission has licensing framework that separates the network from the service, and places emphasis on the activity rather than on the technology. The licensing regime allows a licensee to undertake activities that are market specific. This creates opportunities for expansion into the industry particularly in the area of Applications Service Providers and provides for a more effective utilization of Network Infrastructure. There are four categories of licensable activities:

i) **Network Facilities Providers**- the fundamental building block of the convergence model upon which network, applications and content services are provided.

ii) **Network Services Providers** - basic connectivity and bandwidth provider.



- iii) **Applications Service Providers** - voice services, data services, content-based services, electronic commerce and other transmission services providers.
- iv) **Content Applications Service Providers** - subset of applications service providers including traditional broadcast services and the latest services such as online publishing and information services.

1.11 In UK, no license is required to install or operate electronic communications networks or services unless the use of radio frequency spectrum is involved. Anyone using radio spectrum (such as MNOs and satellite service providers) needs a license under the Wireless Telegraphy Act. (WTA) 2006. However, a general authorization is required for two types of communication providers:

- (i) Electronic Communication Networks (ECN) Providers
- (ii) Electronic Communication Services (ECS) Providers

All UK communications networks and service providers (including MVNOs) do need to comply with a general authorization regime (under the Communications Act 2003) for the provision of communications services.

1.12 Kenya's licensing regime is a unified and technology-neutral licensing framework that permits any form of communications infrastructure to be used to provide any type of communications service. Kenya's current Unified Licensing Framework (ULF) consists of three main technology-neutral licenses: (i) Network Facilities Provider, (ii) Application Service Provider, and (iii) Content Service Provider.

### **C. Infrastructure players in existing Licensing framework in India**

1.13 Over the past two decades, the Indian telecommunications sector has undergone a revolutionary transformation with significant reforms in licensing policies to reflect technological advancements and changing

market demands. In the year 2013, Telecom licensing in India underwent a major transformation with the Implementation of the “Unified License (UL)” regime with vision of *One Nation - One License across services and service areas*, in which there are separate licenses for different telecommunication services. In this regime, telecom players can offer all telecommunication services under one license. Service authorization for different telecom services is done separately under UL. The guidelines<sup>4</sup> for grant of UL were issued on 19<sup>th</sup> August 2013 and modified guidelines<sup>5</sup> (comprehensive) were issued on 8<sup>th</sup> January 2014, wherein spectrum allocation has been delinked from the License and it has been mandated to obtain UL for any one or more of the services listed below (as per UL updated version dated on 17.01.2022):

- i) Unified License (All Services)
- ii) Access Service (Service Area-wise)
- iii) Internet Service (Category-A with All India jurisdiction)
- iv) Internet Service (Category-B with jurisdiction in a Service Area)
- v) Internet Service (Category-C with jurisdiction in a Secondary Switching Area)
- vi) National Long Distance (NLD) Service
- vii) International Long Distance (ILD) Service
- viii) Global Mobile Personal Communication by Satellite (GMPCS) Service
- ix) Public Mobile Radio Trunking Service (PMRTS) Service
- x) Very Small Aperture Terminal (VSAT) Closed User Group (CUG) Service
- xi) Audio Conferencing/Audiotex/ VoiceMail Service
- xii) Machine to Machine (M2M) Service

1.14 Unified License offers service-wise authorizations, where licensees establish networks and use them to provide services. For instance, in

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<sup>4</sup> [https://paragkar.com/wp-content/uploads/2021/09/2013\\_08\\_19\\_UL\\_Guidelines.pdf](https://paragkar.com/wp-content/uploads/2021/09/2013_08_19_UL_Guidelines.pdf)

<sup>5</sup> [https://dot.gov.in/sites/default/files/amended%20%20UL%20guidelines\\_0.pdf?download=1](https://dot.gov.in/sites/default/files/amended%20%20UL%20guidelines_0.pdf?download=1)

the case of Access Service authorization under UL, both creation of network and delivery of service are embedded in the license i.e., along with establishing and maintaining networks, such UL licensees are also providing the services to the customers. Hence, as per the licensing regime under UL, the licensees are envisaged to put passive infrastructure, active network elements and provide services using them. Thus, their role cuts across the infrastructure, network, and service layers. The licensees of UL establish the network, maintain it, provide the service to the subscribers, manage the tariff, billing, QoS, customer care, etc.

- 1.15 Subsequently, the concept of “Virtual Network Operators (VNO)” was introduced that created a set of licensees who could ride on networks of others and focus on delivery of services. VNOs are treated as extension of Network Service Operators (NSOs) or TSPs and are not allowed to install certain core network elements including equipment for interconnecting with network of other NSOs. UL (VNO) is a regime parallel to UL and offers all authorizations as available in the UL. In addition, it offers an authorization for the ‘Access Services Category B’ wherein the service area is a District of a State/Union Territory.
- 1.16 Currently, in India, there are players that operate purely in infrastructure layer. They are Infrastructure Provider -I (IP-I), who are not under UL but are registered with DoT. Infrastructure Providers came into existence in the year 2000 when the Department of Telecommunications (DoT) invited applications for IP-I (Infrastructure Providers Category-I) registrations and IP-II (Infrastructure Providers Category-II) licenses. The scope of IP-I was limited to providing passive assets such as Dark Fibre, Right of Way, Duct space, and Tower on lease/ rent out/ sale basis to licensees of telecom services on mutually agreed terms and conditions. IP-II could establish digital network, provide transmission capacity, and could lease/ rent out/sell end to end bandwidth to the other Licensees of Telecom Services. From 13<sup>th</sup> August 2000 onwards, IP-II licenses were issued by DoT and IP-II were required to pay license fee. But IP-II licenses were discontinued w.e.f.

14<sup>th</sup> December 2005 and the existing IP-II licensees were asked to migrate to NLD (National Long Distance) license.

#### **D. Current status of IP-I registration and its scope of work**

1.17 The scope of work of IP-I was limited to providing passive infrastructure. But DoT vide a letter dated 9<sup>th</sup> March 2009 (refer **Annexure I**) clarified that the scope of IP category-I registration 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. However, vide its letter dated 28<sup>th</sup> November 2016 (refer **Annexure II**), DoT clarified that

*“IP-I providers are not permitted to own and share active infrastructure. The IP-I providers can only install the active elements (limited to antenna, feeder cable, Node B, Radio Access Network (RAN) and transmission media only) on behalf of Telecom licensees i.e., these elements should be owned by the companies who have been issued license under Section 4 of Telegraph Act, 1885.*

*Keeping in view, that some IP-1 companies have invested into creation of active network infrastructure, which requires a license under Indian Telegraph Act, 1885, all IP-1 providers are hereby provided an opportunity to take either a Unified License or a Virtual Network Operator (VNO) license of requisite authorization or a UL(VNO) Cat-B license for specific geographical area within six months of issue of this letter and move all such operations involving active network elements under the license. Alternatively, within a period of six months, the IP-1 providers can transfer all such active network elements to a holder of valid license.”*

1.18 As per the latest guidelines<sup>6</sup> of DoT for Infrastructure Providers Category-I dated 22<sup>nd</sup> December 2021, IP-I can provide assets such as

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<sup>6</sup> <https://dot.gov.in/sites/default/files/RevisedIP-1Guidelines22122021.pdf?download=1>

Dark Fibre, Right of Way, Duct space, and Tower on lease/ rent out/ sale basis to licensees of telecom services on mutually agreed terms and conditions. In no case these companies can work and operate or provide telegraph service including end to end bandwidth to any service provider or any other customer. As per the latest DoT guidelines<sup>7</sup> for IP-I registration, the applicant company has to submit an application for registration in a prescribed format (as attached with the DoT guidelines as annexure-I) along with the required documents. The applicant company is issued Registration Certificate for IP-I by the DoT and this registration certificate is not a license of any sorts, for IP-I. Also, there is no entry fee and bank guarantee but only an application fee of Rs. 5000/-. Thus, the applicant company does not require a license for operating as IP-I, but is only required to register with DoT. The registration for IP-I is on non-exclusive basis without any restriction on the number of entrants. IP-I registered company shall provide for the use of infrastructure in a non-discriminatory manner. The IP-I registered company shall submit a copy of an agreement entered into with the telecom service providers to the DoT within 15 days of signing of any such agreement.

- 1.19 DoT has made amendment<sup>8</sup> in the scope of IP-I registration vide letter no 10-12/2012-CS-III dated 10<sup>th</sup> November 2022 (refer **Annexure III**) wherein following has been added: - *“IP-I registration holders shall also share the above-mentioned infrastructure with the entities as may be specified by the Central Government in the interest of national security and public interest and as per terms and conditions which may be specified by the Central Government.”*

#### **E. DoT’s reference for Telecom Infrastructure License (TIL)**

- 1.20 The Authority in its recommendations<sup>9</sup> dated 13<sup>th</sup> March 2020 on *“Enhancement of Scope of Infrastructure Providers Category-I (IP-I)*

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<sup>7</sup> <https://dot.gov.in/sites/default/files/RevisedIP-1Guidelines22122021.pdf?download=1>

<sup>8</sup> <https://dot.gov.in/sites/default/files/Amendment%in%scope%of%IP-I%registration.pdf>

<sup>9</sup> [https://www.trai.gov.in/sites/default/files/Recommendations\\_13032020\\_0.pdf](https://www.trai.gov.in/sites/default/files/Recommendations_13032020_0.pdf)

*Registration*” recommended that scope of the IP-I registration should be enhanced and expanded to include passive and active infrastructure (excluding core network element and spectrum). DoT vide letter dated 11<sup>th</sup> August 2022 (refer **Annexure IV**) has conveyed that TRAI’s recommendations on Enhancing the Scope of IP-I Registration *cannot be accepted*. In the legal opinion sought by DoT on this issue, it has been opined that:

- (i) Active Infrastructure can be provided only by Telecom Licensees.
- (ii) IP-I registration holders cannot be allowed to provide active infrastructure under their IP-I registration unless they are shifted to licensing regime.

1.21 Further, DoT in its letter has stated that competent authority has decided for creation of a new category license ‘Telecom Infrastructure License (TIL)’. Such licensees may be permitted to establish, maintain, and work all equipment for wireline access, radio access and transmission links, except the core equipment and holding of spectrum. Further, the department is of the view that IP-I registration holders (existing/new) may also be permitted to obtain Telecom Infrastructure License on voluntary basis.

1.22 DoT has sought recommendations for the terms and conditions of such license, applicable license fee etc. under section 11(1) (a) of the TRAI Act 1997. DoT has suggested some broad parameters for examination by TRAI while formulating these recommendations.

## **F. The present Consultation Paper**

1.23 To ensure that the advantages of the new technologies are accessible to all equitably and affordably, the country needs to particularly ensure that its communications infrastructure supports the entire population, whose demographic profile varies widely across various indices such as literacy, economic conditions, and urbanization. The purpose of this consultation process is to seek views of stakeholders

on a new licensing category of Digital Connectivity Infrastructure Providers (DCIP).

1.24 This consultation paper comprises of three chapters.

**Chapter 1** introduces the background as well as purpose of this consultation, including the existing licensing framework on infrastructure.

**Chapter 2** explains the different license category layers and deals with the need of introduction of new DCIP authorization under UL.

**Chapter 3** summarizes the issues for consultation.

## CHAPTER 2

### DIGITAL CONNECTIVITY INFRASTRUCTURE PROVIDER (DCIP) LICENSE

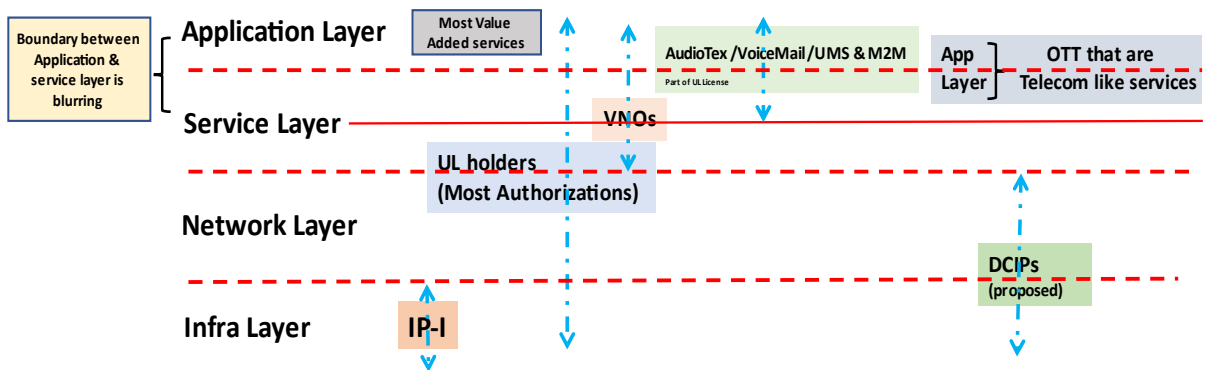
#### A. Digital Communication: Different layers

2.1 Digital Communications can be categorized into four major layers as:

- Application
- Service
- Network
- Infrastructure

**Figure 2.1** below schematically represents how different licenses/registrations operate across various layers in Indian context.

**Fig 2.1 Different Layers & Licensing framework in India**



2.2 As discussed under chapter-1, infrastructure, network and service are not segregated under Unified License. Service only layer was introduced in India by permitting Virtual Network Operators (VNOs) in 2016. VNOs, who do not own the underlying core network(s), are Service Delivery Operators (SDOs) and treated as an extension of network service operators (NSOs). VNOs are not allowed to install equipment interconnecting with the network of other NSOs. No spectrum is assigned to VNOs. Parenting with only one NSO is permitted for access services. Unified License (VNO) is a regime parallel



- to UL for delivery of service. It offers all authorizations available in the UL.
- 2.3 Various application services and most value-added services offered today fall under the application layer. Application providers use the underlying networks and/or internet services to provide applications services. However, the boundary between the application and service layer is blurring. Some services such as Audio Conferencing/Audiotex/ Voicemail and M2M operate in a blurred boundary space between service layer and application layer and are covered under UL.
- 2.4 Given the importance of digital infrastructure and its linkages to overall socio-economic development, it's imperative that a conducive framework is defined where entities who are focussed on only creating infrastructure over which any service can ride, are promoted. As envisaged under NDCP-2018, TRAI in its recommendations on 'Enabling Unbundling of Different Layers Through Differential Licensing' dated 19<sup>th</sup> August 2021 and back-reference response dated 06<sup>th</sup> September 2022 has recommended that a separate authorization under Unified License should be created for Access Network Provider (network layer) to provide network services on wholesale basis. Under this authorization for Network layer only, the Access network provider shall not be permitted to directly provide services to the end customers under the authorization.
- 2.5 In another recommendation on 'Review of Scope of Infrastructure Providers Category-I (IP-I) Registration' that was issued on 13<sup>th</sup> March 2020, TRAI has recommended enhancement of scope of IP-I providers to include active infrastructure also. The Authority had recommended that *"the expanded scope of the IP-I registration should include to own, establish, maintain, and work all such infrastructure items, equipment, and systems which are required for establishing Wireline Access Network, Radio Access Network (RAN), and Transmission Links. However, it shall not include core network elements such as Switch, MSC, HLR, IN, etc. The scope of the IP-I Registration should include, but*

*not limited to, Right of Way, Duct Space, Optical Fiber, Tower, Feeder cable, Antenna, Base Station, In-Building Solution (IBS), Distributed Antenna System (DAS), etc., within any part of India”.*

- 2.6 As has already been brought out in Chapter-I, DoT did not agree to any of the above two recommendations of TRAI and has initiated a fresh reference, seeking recommendations for the terms and conditions of a new category license ‘Telecom Infrastructure License (TIL)’ which may be permitted to establish, maintain, and work all equipment for wireline access, radio access and transmission links, except the core equipment and holding of spectrum.

## **B. Need for Introduction of new DCIP license /authorization under Unified License (UL)**

- 2.7 IP-I have expertise and experience in rolling out telecom infrastructure in the country and have played a significant role in making affordable telecom services available in India. However, the scope of IP-I is limited to passive infrastructure. The creation of active infrastructure is permitted to licensed TSPs only. As per license terms and conditions, active infrastructure sharing is permitted amongst the licensed telecom service provider (TSP) only, but it has its own limitation as not all TSPs may be willing to share their resources with their competitors. Presence of neutral third-party entities that can create passive as well as certain network layer active infrastructure can help in increased sharing and can bring down overall infra development costs. In the present legal and licensing framework in India, there are no entities whose scope of work include both passive and active digital connectivity infrastructure creation. Thus, there is need to create a new category of Licensee that focusses only on creation of active and passive digital connectivity infrastructure. If such entities are incentivized by exempting them from payment of any license fees, this can help in speedy DCI penetration in the country. Those licensees

that specialize in service provisioning to end customers can ride on the DCI. This can also promote efficient resource utilization as the DCI so created by independent entities, can be shared amongst all types of licensees.

As has been illustrated in **figure 2.1**, existing IP-I can continue to work at infrastructure layer 1 for provision of passive infrastructure. While the newly envisaged *Digital Connectivity Infrastructure Providers* (DCIPs) can work at both layer 1 and layer 2 and provide passive infrastructure and create active networks (excluding core elements). This is likely to result in increased common sharable DCI and network resources, reduction of cost, attract investment, strengthen the service delivery segment, and could also prove to be catalyst in proliferation of 5G services for Industry 4.0, enterprise segment and various other use cases.

2.8 At the outset, instead of calling these entities as Telecom Infrastructure Licensees (TILs), the Authority would like to call them as *Digital Connectivity Infrastructure Providers* (DCIPs) as in view of the Authority, this term better explains the work that these entities will be undertaking. Discussion in the above sections, on the need for creating digital connectivity infrastructure, further emphasize upon as to why the Authority is suggesting calling them DCIPs. Also, TRAI is parallelly working on its recommendations on improving digital connectivity in Buildings. The consultation paper issued on “Rating of Buildings or Areas for Digital Connectivity”<sup>10</sup> discusses the term Digital Connectivity Infrastructure (DCI) along with certain proposed entities like DCI designers, DCI engineers, DCI evaluators. Use of term ‘DCIP’ thus brings coherence in terminologies referred by the Authority in the Consultation Papers.

2.9 As new envisaged, DCIPs would work at both layer 1 (Infrastructure layer) & layer 2 (Network layer). It is suggested that the scope of new

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<sup>10</sup> [https://trai.gov.in/sites/default/files/CP\\_25032022.pdf](https://trai.gov.in/sites/default/files/CP_25032022.pdf)

DCIP license should include to establish, maintain, and work both passive and active infrastructure, equipment, and systems which are required for establishing Wireline Access Network, Radio Access Network (RAN) (excluding core network and holding of spectrum), Wi-Fi systems, and Transmission Links. However, in modern networks, the boundaries between core and non-core are blurring. The 5G Core architecture relies on a "Service-Based Architecture" (SBA) framework, where the architecture elements are defined in terms of "Network Functions" (NFs) rather than by "traditional" Network Entities. Via interfaces of a common framework, any given NF offers its services to all the other authorized NFs and/or to any "consumers" that are permitted to make use of these provided services. Such an SBA approach offers modularity and reusability. Positioning of Core Network element in network are evolving/changing with the technology and will be dynamic in nature. There can be various configurations wherein some of the element/ functionality may be shifted from the core to the edge. Considering the 5G core architecture, UPF (User Plane Function) can fall under RAN being at edge near to end users. **In this backdrop, it needs to be discussed as to what network elements will fall under the category of core elements and will have to be excluded from the scope of DCIPs. The Authority would like the stakeholders to comment on this issue.**

- 2.10 In order to accelerate and promote the creation of DCI in the country, it is very much required that these DCIP licensees should be lightly regulated. There can be a view that such DCIP license can be proposed as a standalone license to keep it light touch. Such view can be backed by argument that if DCIP license is made as part of an authorization under Unified Licensing (UL) regime, the onerous conditions of entire Part-I of the UL will be applicable to such licensees and thus it may not remain light touch. However, a contrary view can be that it can be made part of Unified Licensing (UL) regime and generic conditions given in Part-I of the UL can always be overridden and exempted through specific conditions that can be defined in Part-II in the

respective authorization chapter. The Authority in its recommendations for suggesting a light touch license for Interconnect Exchange Providers (IXPs), has already recommended such conditions in the IXP authorization under part-II of UL license which have overriding effect on several generic conditions mentioned in Part-I. For licensing and regulatory framework to be effective in any country, there should be general broad principles that need to be adhered to. One of such principles is – “Similar services should be subject to similar rules”. If a Radio Access Network (RAN) is being established by an ISP or access service licensee under UL, the terms & conditions that are applicable to them for establishing such RAN, should also be applicable to DCIPs if they are also being authorized to install such equipment. Similarly, if a licensee authorized under UL is subject to trusted source procurement or has to follow certain standards for installing RAN equipment, then DCIPs should also be subjected to similar conditions and, therefore, there can be strong argument in favour of making DCIP license as an Authorization under UL itself. However, to make such an Authorization under of UL to be a light touch, the terms & conditions in part-II of UL for this Authorization should be such that they have an overriding effect on those terms & conditions of Part-I, that needs to be exempted for them.

- 2.11 In India, due to introduction of different licenses at different points of time, there are incidences where similar services are being offered under different licenses. For example, Internet services can be provided under ISP License or under Unified License (ISP authorization). In such situations there is a likelihood that an amendment carried out in one license does not get reflected in other, thus violating the principle of “Similar services should be subject to similar rules”. For example, the infrastructure sharing provisions mentioned in ISP licenses issued under 2002 and 2007 guidelines are at variance with those applicable for UL ISP authorization. The Authority had pointed this out to DoT through its letter dated 1<sup>st</sup> February 2022. In its recommendations on use of street furniture for

small cell and aerial fiber deployment dated 29<sup>th</sup> November 2022, the Authority had asked DoT to bring clarity on the provisions of sharing of infrastructure under different licenses to remove the ambiguity in infrastructure sharing provisions. To have uniformity of terms and conditions and in any amendments thereof, it can therefore be further argued that DCIP license should not be standalone, but part of UL regime.

2.12 **In view of above discussions/arguments, as part of this consultation paper, the DCIP License is proposed as a new authorization under UL, instead of a standalone license. The Authority would like to seek comments of the stakeholders on the same.**

2.13 DCI is vital for the growth of the economy and socio-economic development of the country and, therefore, applicability of License Fee (LF) on the new proposed DCIP needs to be discussed. One of the views can be that DCIPs should be subjected to same LF as is applied to other licensees. Another view can be that the scope of work of proposed DCIP does not permit it to provide services/ DCI directly to customers/ entity. This way their scope of work has more similarity to IP-Is rather the TSPs who provide service directly to end customers. Since LF is being imposed and recovered from licensees who are providing telecom services directly to end customers, the DCIPs who are only providing underlying network infrastructure to such licensees should not be subject to LF. This view of exempting DCIPs from LF can be further substantiated by the argument that DCI creation needs to be incentivized and more players/ investment needs to be attracted. **In the DCIP authorization that has been proposed in this CP for seeking comments of stakeholders no LF is being proposed. The Authority would like to seek comments from the stakeholders on this view and on legal tenability of not charging any licensee fee in wake of section 4 of Indian Telegraph Act that empowers the Central Government to grant a license, on such conditions and in**

consideration of such payments as it thinks fit, to any person to establish, maintain or work a telegraph within any part of India.

- 2.14 Another important aspect of designing new authorization for DCIPs is to examine, to which entities the proposed DCIP can lease/rent/sell their infrastructure. Entities like licensed TSPs, PDOs, PDOAs, Local Cable Operators (LCOs), Data Centres (DCs), CDN, etc. would be potential contenders to lease/rent/buy the infrastructure created by DCIPs. However, assuming that no license fee is proposed on DCIPs, it can be argued that they should be allowed to lease/rent/sell their infrastructure as a service to only those entities who are licensed under Section 4 of the Indian Telegraph Act. To that extent they will be placed at par with current IP-I, who are also in business of creating passive infrastructure and are not subjected to any license fee payment. Presently owning and operating active network elements is currently allowed only to licensed entities who pay 8% license fee. Once DCIPs are introduced, it is likely that existing licensees might hive off their active network infrastructure and put them under new companies to save license fee as was done in past when IP-I entities were introduced. It therefore seems prudent to allow DCIPs to provide service only to such entities that are licensed under Section 4 of the Indian Telegraph Act and who will in turn use this infrastructure to provide services on which Government can earn license fee.
- 2.15 While suggesting the licensing framework for DCIPs, modern regulatory principles viz principles-based regulation rather than rule based, self-regulation, and ex-poste rather than ex-ante regulations needs to be applied. One of the ways for ensuring that broad principles of licensing and regulatory framework in India are upheld by DCIPs and yet they remain lightly regulated, is by way of self-regulation. If DCIPs are allowed to provide services only to licensed entities, then the principal-agent relationship between the two can be used for self-regulation. The agreements between Licensed entities and DCIPs can be used as levers to ensure that DCIPs adhere to broad principles of Indian licensing and regulatory framework including security

conditions, Quality of service (QoS), interconnection, non-discrimination, etc. Using the principal-agent lever a self-regulating mechanism can be put in place, where the licensed entities who provide service using DCIP infra will continue to abide by all terms and conditions of the UL, while the DCIP license authorization can still be kept lightly regulated. However, such self-regulating mechanism cannot be invoked when DCIPs are expected to provide services to non-licensed entities. This further strengthens the argument of allowing DCIPs to provide services only to licensed entities.

2.16 **In view of various arguments given above, it is proposed in this consultation paper that DCIPs can lease/rent/sell their infrastructure only to such entities which are licensed under Indian Telegraph Act. The Authority would like the stakeholders to provide their comments on the same.**

2.17 Another aspect that will require deliberations while framing DCIP Authorization is the levy of entry fee, Performance Bank Guarantee (PBG), Financial Bank Guarantee (FBG) and Application Processing Fee and the amount applicable on DCIPs. Though the DCIPs will be allowed to operate throughout the country, it can be argued that many of the smaller players will have a limited area of operation which will be confined to a few cities or a State. Entry of many new players in this field will help in creation of more and more DCI and will therefore it can be argued that the entry barriers may be kept as low as possible.

2.18 The entry fee, PBG, Financial Bank Guarantee (FBG) and Application Processing Fee for various smaller players that operate at district level or state level in the current licensing system is tabulated below:



**Table 2.1: - Entry Fee, PBG, FBG and Application Processing Fee for various smaller Category- 'B' and 'C' licenses**

Service	Entry Fee (Rs. Cr.)	PBG (Rs. Cr.)	FBG (Rs. Cr.)	Application Processing Fee (Rs. Cr.)
ISP "B" Telecom circle/Metro Area)	0.020	0.020	0.002	0.0015
ISP "C" (SSA)	0.002	0.001	0.0002	0.001
M2M 'B' (Telecom circle/ Metro Area)	0.020	0.020	0.002	0.0015
M2M 'C' (SSA)	0.002	0.001	0.0002	0.001

- 2.19 As can be seen from the table, the licensees who are authorized as ISP category B and M2M category B are subjected to Entry Fee and PBG of Rs. 2 lakhs. The ISPs and M2M players who operate at national level are subjected to entry fee of Rs. 30 lakh and PBG of Rs. 40 lakhs. To facilitate creation of DCI, it can be contended that to attract more and more investment and smaller players, the entry fee should also be kept as low as possible.
- 2.20 However, since the DCIPs will have entire country as their area of operations, there can be another view of treating the DCIPs at par with players who operate at national level. Accordingly, it can be argued that they should be subject to higher entry fee, PBG, Financial Bank Guarantee (FBG) and Application Processing Fee.
- 2.21 **Going by the arguments presented in para 2.17 to 2.19, for DCIP authorization proposed in this consultation paper, an entry fee of Rs. 2 lakhs has been suggested. It is also proposed to levy an application processing fee of Rs. 15,000 for obtaining DCIP Authorization under UL. The Authority would like the stakeholders to provide their comments on the same.**

2.22 As per the UL, PBG is taken “to cover violation of license conditions and to ensure the performance under the license agreement including compliance of instructions issued by the Licensor from time to time”. In this consultation process, for the proposed DCIP Authorization, the terms and conditions have been proposed to keep the Authorization as light touch as possible. It is envisaged that the DCIPs should be exempted from most of the onerous license conditions mentioned in Part-1 of the unified license. Therefore, there can be a view that they should not be subjected to any PBG. As has been discussed above, one of the ways for ensuring that broad principles of licensing and regulatory framework in India are upheld by DCIPs and yet they remain lightly regulated, is by way of self-regulation using the principal-agent relationship between Licensed entities and DCIPs. Accordingly, the suggested Authorization envisages that the DCIPs, for providing their infrastructure, will enter into agreement with eligible licensees. These agreements will invariably contain clauses obligating DCIPs to ensure that the Hirer of their infrastructure is able to fulfill the Licensing conditions including technical, operating and security conditions, when riding on their DCI. In addition, an amendment can be made to UL that in case a UL licensee (Hirer of service) obtains and utilizes DCI from DCIPs (hirer of service), their commercial arrangements should have terms and conditions obligating DCIPs to ensure that various License conditions applicable on Hirer including the operating and security conditions are not breached due to use of DCI of DCIP. This way conditions regarding EMF exposure by BTS (Base Stations), confidentiality of information, and security conditions can still be ensured as part of TSPs compliance, while keeping the compliance burden for DCIPs to minimum. Thus, a self-regulating mechanism has been built in the proposed framework whereby, the licensees, who are holding PBGs with licensor, will ensure that the DCIP’s infrastructure is installed and used in such a manner that the services offered by eligible licensees using this DCI are as per the license terms and conditions. In any case, the Licensor will always have the right to cancel the DCIP’s license, if the need be. Accordingly,

it can be argued that there is no need to subject DCIPs to any PBG. However, there can be a counter view that DCIPs, being independent licensees, should be subject to PBG to cover violation of license conditions and to ensure the performance under the license agreement including compliance of instructions issued by the Licensor from time to time. In accordance with former viewpoint, **the terms and conditions of the Authorization proposed in this CP are anticipated without PBG. The Authority would like the stakeholders to provide their comments on the same.**

2.23 Another aspect that would require deliberations while proposing an authorization under UL for DCIPs is whether a DCIP can lease/rent infrastructure from/to other DCIPs/TSPs/IP-Is. The Authority has always been of the view that infrastructure sharing should be promoted to the extent possible. Therefore, in the suggested DCIP authorization in this consultation paper, it has been proposed that active and passive infrastructure sharing amongst all licensees should be allowed for such network elements that they are permitted to install under their license authorization. Since the DCIPs are also proposed to be licensees under UL, therefore, they will automatically become eligible for sharing of such active and passive infrastructure that they are allowed to install under their authorization with other TSPs who hold a license and are allowed to install similar infrastructure elements. **As far as leasing and renting infrastructure between DCIP and IP-1 is concerned, it can be argued that the same should be permitted within the limit of the scope of IP-I registration. This may require necessary amendment to IP-I registration. The stakeholders may share their viewpoints on the same.**

2.24 UL details the maximum amount of penalty that can be levied under each Service Authorization for breach of terms and conditions of the license. The table below summarizes the same for some of the licenses that can be said to be comparable to DCIP.

**Table 2.2: - Maximum penalty in UL for smaller Category ‘B’ and ‘C’.**

<b>Service Authorization</b>	<b>Maximum Amount of Penalty per violation for each occasion in Service Area</b>
ISP Cat B	20 Lakh
ISP Cat C	10 Lakh
M2M Cat B	20 Lakh
M2M Cat C	10 Lakh

2.25 Again, as far as prescribing the limits for penalty for DCIP authorization there can be a view that since DCIPs will operate at national level, they should be subject to similar amounts of penalties as other authorizations under UL that operate at national level. A counterview could be that there will be lot of new smaller DCIPs that will emerge on regional level and thus the penalty prescribed should be in line with authorizations that have regional scope (State level - Category ‘B’ and District level - Category ‘C’). In line with the later point of view, **a maximum penalty of Rs. 20 Lakh is being suggested to DCIPs. The stakeholders may share their viewpoints on the same.**

2.26 Based on above discussions where different possibilities have been presented on scope of the DCIP license, applicability of license fee, infrastructure leasing/renting/selling, levy of entry fee, PBG, FBG, penalty etc, a separate light touch license authorization under Unified License is suggested to be created for DCIP and accordingly proposed chapter- XX containing detailed terms and conditions is attached as **Annexure V.**

**Q 1. Comments of stakeholders are invited on the proposed DCIP Authorization under UL (attached at Annexure V). They may also offer their comments on the issues flagged in the above**

**discussions on terms and conditions and scope of the proposed authorization. Any suggestive changes may be supported with appropriate text and detailed justification.**

**Q 2. Are there any amendments required in other parts/chapters of UL or other licenses also to make the proposed DCIP authorization chapter in UL effective? Please provide full details along with the suggested text.**

2.27 Once the new Authorization under UL for DCIPs is announced, some of the digital infrastructure sector players who are currently registered as IP-Is, may like to take the new license and migrate their assets under this license. Prima-facie there seems to be no issues whatsoever in doing the same. However, Authority would like to know the comments of stakeholders on the same through the following question.

**Q 3. Are any issues/hurdles envisaged in migration of IP-I registered entities to the proposed DCIP Authorization under UL? If yes, what are these issues and what migratory guidelines should be prescribed to overcome them? Please provide full text/details.**

2.28 The scope of work of new proposed DCIP Licensee includes, to provide DCI items, equipment, and systems on mutually agreed terms and conditions to eligible service provider on fair, reasonable and non-discriminatory manner. DCIPs are thus envisaged to be neutral hosts that will help in infrastructure creation at network layer which will be used by other licensees for provision of services. Hence, it is pertinent to ensure that the DCIP Licensee lease/rent their infrastructure (i.e., DCI items, equipment, and system) on a fair, non-discriminatory, and transparent manner throughout the agreed time period to eligible service providers, else the overall framework envisaged for delivery of services gets affected.

2.29 Another vital aspect, for overall framework to work efficiently and for QoS standards to be upheld, is the fact that DCIPs do not sell more than designed overall carrying capacities. It is important that DCIP should enter into agreement for their designed DCI capacity with only such number of eligible service provider(s), that their equipment, and systems can support. Otherwise, it may affect the technical and QoS benchmark parameters for provisioning of services of some eligible service providers at the cost of others.

In view of above discussion, the Authority seeks comments of stakeholders on the following:

**Q 4. What measures should be taken to ensure that DCIP Licensee lease/rent/sell their infrastructure to eligible service providers (i.e., DCI items, equipment, and system) on a fair, non-discriminatory, and transparent manner throughout the agreed period? Please provide full details along with the suggested text for inclusion in license authorization, if any.**

**Q 5. How to ensure that DCIPs lease/rent/sell out the DCI items, equipment, and system within the limit of their designed network/ capacity so that the service delivery is not compromised at the cost of other eligible service provider(s)? Please suggest measures along with justification and details.**

**Q 6. Stakeholders may also submit their comments on other related issues, if any.**

## **CHAPTER 3**

### **Summary of issues for consultation**

- Q1. Comments of stakeholders are invited on the proposed DCIP Authorization under UL (attached at Annexure V). They may also offer their comments on the issues flagged in the discussions on terms and conditions and scope of the proposed authorization. Any suggestive changes may be supported with appropriate text and detailed justification.**
- Q 2. Are there any amendments required in other parts/chapters of UL or other licenses also to make the proposed DCIP authorization chapter in UL effective? Please provide full details along with the suggested text.**
- Q3. Are any issues/hurdles envisaged in migration of IP-I registered entities to the proposed DCIP Authorization under UL? If yes, what are these issues and what migratory guidelines should be prescribed to overcome them? Please provide full text/details**
- Q 4. What measures should be taken to ensure that DCIP Licensee lease/rent/sell their infrastructure to eligible service providers (i.e., DCI items, equipment, and system) on a fair, non-discriminatory, and transparent manner throughout the agreed period? Please provide full details along with the suggested text for inclusion in license authorization, if any.**
- Q 5. How to ensure that DCIPs lease/rent/sell out the DCI items, equipment, and system within the limit of their designed network/ capacity so that the service delivery is not compromised at the cost of other eligible service provider(s)? Please suggest measures along with justification and details.**

**Q 6. Stakeholders may also submit their comments on other related issues, if any.**



**Clarification Regarding the Scope of IP-I Providers (2009)**

**Government of India  
Ministry of Communications & IT  
Department of Telecommunications  
Sanchar Bhawan, 20-Ashoka Road, New Delhi-110001.  
(Carrier Services Cell)**

No. 10-51/2008-Cs-III

Dated: 09-03-2009

To.

All IP-I Providers

**Subject: Clarification regarding scope of IP-I providers.**

It is to clarify that the scope of IP-I 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 only for/on behalf of UASL/CMSP licensees.

This issues with the approval of competent authority.

  
9.3.2009  
**(S.T.Abbas)**  
**Director(CS-III)**

**Clarification Regarding Scope of IP-I Providers (2016)**

No. 10-40/2007-CS-III  
Government of India  
Ministry of Communications  
Department of Telecommunications  
Sanchar Bhawan, 20, Ashoka Road, New Delhi-110001.  
(Carrier Services Cell)

Dated: 28.11.2016.

To

All Infrastructure Provider Cat-I (IP-I) Service Providers

Subject: Clarification regarding scope of IP-I providers.

With reference to DOT Letter No. 10-51/2008-CS-III dated 09.03.2009, the undersigned is directed to convey the following clarification regarding scope of IP-I Providers:-

*“The IP-I providers are not permitted to own and share active infrastructure. The IP-I provider can only install the active elements (limited to antenna, feeder cable, Node B, Radio Access Network (RAN) and transmission system only) on behalf of Telecom licensees i.e. these elements should be owned by the companies who have been issued license under section 4 of Telegraph Act, 1885.*

*Keeping in view, that some IP-I companies have invested into creation of active network infrastructure, which requires a license under Indian Telegraph Act, 1885, all IP-I providers are hereby provided an opportunity to take either a Unified License or a Virtual Network Operator(VNO) license of requisite authorization or a UL(VNO) Cat-B license for specific geographical area within six months of issue of this letter and move all such operations involving active network elements under the license. Alternatively, within a period of six months, the IP-I providers can transfer all such active network elements to a holder of valid license.”*

2. This issues with the approval of Competent Authority.

  
(Sanjeev Kumar Sharma)  
Director (CS-III)

**Copy to:**

- (i) Sr. DDG(TERM), DoT HQ for circulation amongst the TERM Cell Units.
- (ii) Sr. DDG(AS) / WA / DDG(DS), DoT HQ – for information please
- (iii) All Licensed Telecom Service Providers
- (iv) ADG(IT), DoT HQ- for uploading the document on DoT's website.

**Latest amendment in the scope of IP-I registration**

Government of India  
Ministry of Communications  
Department of Telecommunications  
Sanchar Bhawan, Ashoka Road, New Delhi-110001  
(Carrier Services Cell)

No. 10-12/2012-CS-III

Dated: 10.11.2022

To


**All Infrastructure Providers – Category –I (IP-I) Registration holders.**

**Subject: Amendment in the scope of IP-1 Registration.**

In pursuance to Condition 7.5 of the Infrastructure Providers Category–I (IP-1) Registration certificate, the Deptt. of Telecommunications, Government of India hereby amends the scope of IP-1 Registration as mentioned in the first clause of IP-1 Registration certificate as under:

Existing clause	Amended clause
This is to certify that M/s ----- ----- with registered office at ----- ----- is registered as Infrastructure Provider Category I (IP-I) to establish and maintain the assets such as Dark Fibres, Right of Way, Duct Space and Tower for the purpose to grant on lease/rent/sale basis to the licensees of Telecom Services licensed under Section 4 of Indian Telegraph Act, 1885 on mutually agreed terms and conditions.	This is to certify that M/s ----- ----- is with registered office at ----- is registered as Infrastructure Provider Category I (IP-I) to establish and maintain the assets such as Dark Fibres, Right of Way, Duct Space and Tower for the purpose to grant on lease/rent/sale basis to the licensees of Telecom Services licensed under Section 4 of Indian Telegraph Act, 1885 on mutually agreed terms and conditions. <u>IP-1 registration holders shall also share the above mentioned infrastructure with the entities as may be specified by the Central Government in the interest of national security and public interest and as per terms and conditions which may be specified by the Central Government.</u>

2. This amendment shall be part and parcel of all existing/ new IP-1 Registration Certificates. All others Terms & Conditions shall remain unchanged.

  
10/11/22  
(Pradeep Kumar)

**Director (CS-III)**

**For and on behalf of the President of India**

Copy for kind information to:

1. The Director General Telecom, UIDAI Bhawan, New Delhi-110001
2. DDG(AS)/ DDG(DS)/ DDG(SAT)/ DDG(DM), DoT HQ, New Delhi

**DoT reference for creation of a new category of license ‘Telecom Infrastructure License’ (TIL)**

Government of India  
Ministry of Communications  
Department of Telecommunications  
Sanchar Bhawan, 20 Ashoka Road New Delhi – 110001  
(Carrier Services Wing)

**No. 10-12/2012-CS-III (Pt. III)**

**Dated: 11.08.2022**

To,

The Secretary  
Telecom Regulatory Authority of India  
Mahanagar Doorsanchar Bhawan (Old Minto Road)  
New Delhi -110002

**Subject: TRAI Recommendations on Enhancement of Scope of IP-I Registration dated 13.03.2020 and seeking recommendations on proposed TIL**

- Ref: 1. TRAI Recommendations dated 13.03.2020  
2. DoT letter to TRAI dated 18.11.2020  
3. Clarifications issued by TRAI dated 11.01.2021

The undersigned has been directed to refer to TRAI Recommendations dated 13.03.2020 on the subject “Enhancement of Scope of Infrastructure Providers Category-I (IP-I) Registration” and subsequent communications held in this regard as mentioned above.

2. The aforesaid recommendations have been examined in the Department and legal advice from AS&LA(T) DoT was also taken on this issue who inter-alia opined that:

- “Active Infrastructure can be provided only by Telecom Licensees.
- IP-I registration holders cannot be allowed to provide active infrastructure under their IP-I registration, unless they are shifted to licensing regime.”

3. After detailed deliberations/ examination, it has been decided by DoT that the aforesaid TRAI Recommendations can’t be accepted.

4. However, the competent authority has decided for creation of a new category of license namely “**Telecom Infrastructure License’ (TIL)**. Such licensees may be permitted to establish, maintain and work all equipment for wireline access, radio access and transmission links, except the core equipment and holding of spectrum. Further, the department is of the view that IP-I registration holders (existing/ new) may also be permitted to obtain Telecom Infrastructure License on voluntary basis.

5. TRAI is requested to give recommendations for the terms and conditions of such license, applicable license fee etc. under section 11(1)(a) of the TRAI Act 1997. Following

*File*

broad parameters are suggested for examination by TRAI while formulating these recommendations:

- a. These licensees may be lightly regulated in order to give a boost to investment in telecom infrastructure in the country.
- b. TIL may be a standalone License, since making TIL a part of UL will automatically make 'Part-I' of UL applicable to TIL also and light regulations for TIL may not be feasible.
- c. Entities to whom a TIL can lease/ rent/ sell their infrastructure (TSPs/ PDOs/ PDOAs/ Local Cable Operators/ Data Centres etc.)
- d. Amount of License Fee to be levied on pass through charges/ revenue earned while sharing of infrastructure between TSP, IP-I and proposed TIL to maintain level playing field.
- e. License fee to be levied on Telecom Infrastructure Licensees. Charging of a token amount of license fee (say Re 1/-) from TIL may be explored to boost investment in telecom infrastructure
- f. Since the TIL will be having a wide scope with All-India permission to install all active and passive equipment (except Core equipment and Spectrum), a nominal entry fee (say Rs 10 Lakh) may be explored to avoid non-serious players.
- g. Conditions regarding EMF exposure by BTS (Base Stations), Confidentiality of Information, and Security Conditions. In order to ensure compliance to these conditions a Performance Bank Guarantee (PBG) of suitable amount (say Rs 20 Lakh) may be explored.
- h. Whether TIL can take on lease/ rent infrastructure from other TILs/ TSPs/ IP-I holders for further leasing/ renting it to other entities as mentioned in para (c) above.

This is issued with the approval of Hon'ble MoC.

  
11/08/22

(Pradeep Kumar)  
**Director (CS-III)**

Tel. No.: 23036348

**Copy to:**

1. PSO to Secretary(T)
2. PPS to Member(T)/ Member (S)/ Member(F)/ DG(Telecom)/AS(T)

**Proposed Light touch authorization under Unified License (UL)**

**CHAPTER-XX**

**DIGITAL CONNECTIVITY INFRASTRUCTURE PROVIDERS (DCIPs)  
under PART-II of UL**

1. **Service Area:** The Service Area for the DIGITAL CONNECTIVITY INFRASTRUCTURE PROVIDERS (DCIPs) shall be at the National Level.

2. **Scope of the DCIP Service:** Scope of this Authorization covers the following:

2.1 The authorization of DCIP shall be on non-exclusive basis without any restriction on the number of entrants.

2.2 The scope of the DCIP authorization includes to own, establish, maintain, and work all such apparatus, appliance, instrument, equipment, and system which are required for establishing all Wireline Access Network, Radio Access Network (RAN), Wi-Fi systems, and Transmission Links. However, it shall not include spectrum and core network elements such as Switch, MSC, HLR, IN etc. The scope of the DCIP license also includes Right of Way, Duct Space, Dark Fiber, Poles, Tower, Feeder cable, Antenna, Base Station, In-Building Solution (IBS), Distributed Antenna System (DAS), etc. within any part of India.

2.3 The scope of DCIP authorization does not include the assignment of licensed spectrum to DCIPs. Multi-Operator Radio Access Network (MORAN) sharing would only be permitted where only RAN equipment is shared not the spectrum. The end users

of each operator access the services of their respective Mobile Network Operator (MNO) with the frequencies of their respective MNO.

2.4 Any Service Provider who has a valid license under section 4 of Telegraph Act 1885 from the Government of India, shall only be eligible to obtain such a telegraph infrastructure on lease/rent/ purchase basis from DCIP licensees. Hereinafter these service providers have been referred to as an eligible service providers.

2.5 The DCIP Licensee are authorised to provide DCI items, equipment and systems on lease/rent/sale basis to any eligible service providers, other DCIPs, and entities notified by the Government for this purpose.

2.6 The DCIP Licensee should provide DCI items, equipment and systems on mutually agreed terms and conditions to eligible service provider in fair, reasonable and non-discriminatory manner.

2.7 The scope of the DCIP authorization should not include:

- a) providing access to DCI items, equipment, and systems to any customer other than the eligible service providers and DCIP licensees.
- b) provisioning of end-to-end bandwidth using transmission systems to any customer or to any eligible service providers.
- c) use of the licensed spectrum, assigned to an eligible service provider, for provisioning of wireless Telecommunication Services to other eligible service providers.

2.8 The DCIP Licensee should be eligible to apply for and issue of licence under the Indian Wireless Telegraphy Act, 1933 to possess such wireless telegraphy apparatus that is permitted under the scope of DCIP authorization. However, the DCIP authorization holder should not be eligible to apply for and assignment of any kind of licensed spectrum.

2.9 The DCIP authorization holder:

- a) should be permitted to own, establish, maintain, and work apparatus, appliance, instrument, equipment, and system, so permitted under its scope, using any technology as per the prescribed standards.
- b) should utilize type of equipment and products that meet TEC standards, wherever made mandatory by the Licensor from time to time. In the absence of mandatory TEC standards, the DCIP licensee should be permitted to utilize only those equipment and products which meet the relevant standards set by International standardization bodies, such as, ITU, ETSI, IEEE, ISO, IEC etc., or set by International Fora, such as 3GPP, 3GPP-2, IETF, MEF, WiMAX, Wi-Fi, IPTV, IPv6, etc. as recognized by TEC and subject to modifications/adaptation, if any, as may be prescribed by TEC/Licensor from time to time.
- c) should be bounded by the terms and conditions of DCIP license as well as instructions issued by the Licensor and by such orders/directions/regulations of TRAI issued as per the provisions of the TRAI Act, 1997, as amended from time to time.

2.10 The Licensee may share all infrastructure owned, established, and operated by it under the scope of this Authorization with other Licensees under UL including DCIPs, ISPs (not in UL), and IP-Is subject to condition that only such infrastructure will be shared that



is allowed to be established by other licensee/IP-I in its own license/registration. To that effect, the provisions of this clause will have overriding effect on Clause 33 of Part-I of the UL.

2.11 The following conditions may be followed by DCIPs: -

- (i) While providing the resources to other entities, they shall satisfy themselves that such entity is eligible to obtain that resource, else it will be treated as a violation of the terms and conditions of this authorization.
- (ii) DCIPs shall be obligated to install DCI in such a way that the Hirer of their infrastructure is able to fulfill the Licensing conditions including technical, operating, Quality of Service (QoS) and security conditions, when riding on their DCI; subject to such other directions as Licensor or TRAI may give from time to time.
- (iii) DCIPs shall be obligated to ensure that they enter into a formal written agreement with eligible service providers before providing access to DCI items, equipment, and systems to them on lease/rent/sell basis. These agreements should invariably contain clauses obligating DCIPs to ensure that Hirer of their infrastructure is able to fulfill the Licensing conditions including technical, operating, QoS and security conditions, when riding on their DCI.
- (iv) On request provide to the licensor details of all network elements, its location, cable routes and capacity along with GIS mapping.
- (v) In security sensitive areas installation of any equipment or execution of project shall be taken up only as per Licensor's policy/guidelines.
- (vi) DCI or installation thereof, should not become a safety or health hazard and is not in contravention of any statute, rule, regulation, or public policy.

- (vii) DCIPs shall be obligated not to provide infrastructure to those who are not authorized as licensee under the Indian Telegraph Act or whose license is revoked/suspended or not in operation.

**3. Financial Conditions:**

- i. Entry fee: The total amount of Entry fee shall be as specified in Annexure-II.
- ii. DCIPs will not be required to pay any License Fee

**4. Part I of UL Conditions that will not be applicable for Licensees having only DCIP Authorization**

<b>Chapter</b>	<b>Part I of UL Conditions that will not be applicable for Licensees having only DCIP Authorization</b>
<b>Chapter I: General Conditions</b>	1.5, 1.6, 1.7, 2.3, 2.4, 7, 8
<b>Chapter II: Commercial Conditions</b>	-
<b>Chapter III: Financial Conditions</b>	18.2, 18.3, 18.4, 19, 20, 21.2, 22
<b>Chapter IV: Technical Conditions</b>	24.1, 25.1, 29
<b>Chapter V: Operating Conditions</b>	30.1, 30.2, 30.3(b), 30.4, 30.5, 30.6, 30.7, 30.11, 31, 32.2, 34, 35, 37.2, 37.3, 37.4, 38.1, 38.2, 38.3
<b>Chapter VI: Security Conditions</b>	39.2, 39.10(ii), 39.11 (i), 39.11 (ii), 39.11 (iv), 39.12, 39.13, 39.15, 39.17, 39.18, 39.19, 39.20, 39.21, 39.22, 39.23(ii), 39.23(iii), 39.23(iv), 39.23(v), 39.23(viii), 39.23(ix), 39.23(x), 39.23(xvi), 39.23(xvii), 39.23(xix), 39.23(xx)
<b>Chapter VII: Spectrum Allotment and use</b>	41, 42

**Suggested Amendments to Annexure-II of UL**

**Details of Minimum Equity, Minimum Networth, Entry Fee, PBG, FBG and Application Processing Fee for various service authorizations**

Sl No.	Service	Minimum Equity (Rs. Cr.)	Minimum Networth (Rs. Cr.)	Entry Fee (Rs. Cr.)	PBG (Rs. Cr.)	FBG (Rs. Cr.)	Application Processing Fee (Rs. Cr.)
1	UL (All services)	25.000	25.000	15.000	44.000	8.800	0.010
Service Authorization wise requirements							
1	Access Service (Telecom Circle / Metro Area)	2.500	2.500	1.000 (0.5 for NE & J&K)	2.000	0.400	0.005
2	NLD (National Area)	2.500	2.500	2.500	0.500	1.000	0.005
3	ILD (National Area)	2.500	2.500	2.500	0.500	1.000	0.005
4	VSAT (National Area)	Nil	Nil	0.300	0.100	0.060	0.005
5	PMRTS (Telecom circle/Metro)	Nil	Nil	0.005	0.002	0.002	0.0015
6	GMPCS (National Area)	2.500	2.500	1.000	0.500	0.200	0.005
7	ISP "A" (National Area)	Nil	Nil	0.300	0.400	0.020	0.005
8	ISP "B" (Telecom circle/Metro Area)	Nil	Nil	0.020	0.020	0.002	0.0015
9	ISP "C" (SSA)	Nil	Nil	0.002	0.001	0.0002	0.001
10	Audio Conferencing/ Audiotex/ Voice mail service	Nil	Nil	0.100	0.02	0.002	0.0015
11	Machine to Machine 'A' (National Area)	Nil	Nil	0.30	0.400	0.020	0.005
12	Machine to Machine 'B' (Telecom circle/ Metro Area)	Nil	Nil	0.020	0.020	0.002	0.0015
13	Machine to Machine 'C' (SSA)	Nil	Nil	0.002	0.001	0.0002	0.001
<b>14</b>	<b>DCIP</b>	<b>Nil</b>	<b>Nil</b>	<b>0.020</b>	<b>NIL</b>	<b>NIL</b>	<b>0.0015</b>

## Suggested Amendments to Annexure-VI of UL

### **Details of Maximum amount of Penalty under each Service Authorization**

S. No.	Service Authorization	Maximum Amount of Penalty per violation for each occasion in Service Area
1	Access	50 Crore
2	NLD	50 Crore
3	ILD	50 Crore
4	ISP Cat A	1 Crore
5	ISP Cat B	20 Lakh
6	ISP Cat C	10 Lakh
7	GMPCS	50 Crore
8	PMRTS	10 Lakh
9	VSAT CUG	1 Crore
10	Audio Conferencing/ Audiotex/ Voice mail services	20 Lakh
11	M2M Cat A	1 Crore
12	M2M Cat B	20 Lakh
13	M2M Cat C	10 Lakh
<b>14</b>	<b>DCIP</b>	<b>20 Lakh</b>

## LIST OF ACRONYMS

<b>Sl. No.</b>	<b>Acronym</b>	<b>Description</b>
1.	5G	Fifth Generation Technology
2.	ACMA	Australian Communications and Media Authority
3.	AGR	Adjusted Gross Revenue
4.	ApGR	Applicable Gross Revenues
5.	BTS	Base Transceiver Station
6.	CAGR	Compound Annual Growth Rate
7.	CDN	Content Delivery Network
8.	CMSP	Cellular Mobile Service Providers
9.	CUG	Closed User Group
10.	DAS	Distributed Antenna System
11.	DCI	Digital Connectivity Infrastructure
12.	DC	Data Centre
13.	DCIP	Digital Connectivity Infrastructure Provider
14.	DoT	Department of Telecommunications
15.	ECN	Electronic Communication Networks
16.	ECS	Electronic Communication Services
17.	EoDB	Ease of Doing Business
18.	EMF	Electric and Magnetic Field
19.	EBG	Financial Bank Guarantee
20.	ETSI	European Telecommunications Standards Institute
21.	FBO	Facilities-Based Operator

<b>Sl. No.</b>	<b>Acronym</b>	<b>Description</b>
22.	FBG	Financial Bank Guarantee
23.	GIS	Geographic Information System
24.	GMPCS	Global Mobile Personal Communication by Satellite
25.	IBS	In-building Solutions
26.	ICT	Information and Communications Technology
27.	IEC	International Electrotechnical Commission
28.	IETF	Internet Engineering Task Force
29.	IEEE	Institute of Electrical and Electronics Engineers
30.	ILD	International Long Distance
31.	IMDA	Infocomm Media Development Authority
32.	IoT	Internet of Things
33.	IP-I	Infrastructure Provider - I
34.	IP-II	Infrastructure Provider - II
35.	IPR	Intellectual Property Rights
36.	IPTV	Internet Protocol television
37.	IPv6	Internet Protocol version 6
38.	ISO	International Standards Organization
39.	ISP	Internet Service Provider
40.	ITU	International Telecommunication Union
41.	IXP	Interconnect Exchange Provider
42.	LTE	Long Term Evolution
43.	M2M	Machine to Machine
44.	MNO	Mobile Network Operator

<b>Sl. No.</b>	<b>Acronym</b>	<b>Description</b>
45.	MORAN	Multi-Operator Radio Access Network
46.	MVNO	Mobile Virtual Network Operator
47.	NDCP	National Digital Communication Policy
48.	NFs	Network Functions
49.	NLD	National Long Distance
50.	NSDTS	National Security Directive on the Telecommunication Sector
51.	NSO	Network Service Operator
52.	OSP	Other Service Provider
53.	PBG	Performance Bank Guarantee
54.	PDO	Public Data Office
55.	PDOA	Public Data Office Aggregator
56.	PMRTS	Public Mobile Radio Trunking Service
57.	QoS	Quality of Service
58.	RAN	Radio Access Network
59.	RoW	Right of Way
60.	SBA	Service-Based Architecture
61.	SBO	Service-Based Operator
62.	SDN	Software Defined Network
63.	SUC	Spectrum Usage Charges
64.	TEC	Telecommunication Engineering Centre
65.	TIL	Telecom Infrastructure License
66.	TRAI	Telecom Regulatory Authority of India
67.	TSP	Telecom Service Provider
68.	UASL	Unified Access Services License

<b>Sl. No.</b>	<b>Acronym</b>	<b>Description</b>
69.	UL	Unified License
70.	ULF	Unified Licensing Framework
71.	UL(VNO)	Unified Licence (Virtual Network Operator)
72.	UPF	User Plane Function
73.	VNO	Virtual Network Operator
74.	VSAT	Very Small Aperture Terminal
75.	WTA	Wireless Telegraphy Act.