Lightstorm Telecom Connectivity Private Limited
Corporate Office: 7th Floor, Tower C, DLF Building No 6,
SEZ, Sector- 24 & 25A, DLF Cyber City,
Phase-III, Gurugram, Haryana, -122002

2nd March 2026

To,

Mr. D Manoj,
Principal Advisor (Financial & Economic Analysis),
Telecom Regulatory Authority of India
Tower F, NBCC World Trade Centre, Nauroji Nagar,
New Delhi-110029

Subject: Response to TRAI consultation paper on "Review of Tariff for Domestic Leased Circuits (DLCs)" Consultation Paper No. 01/2026.

Dear Sir,

This is with reference to the TRAI consultation paper referenced above. We submit our response to the issues under consultation.

We hope the above shall merit consideration of the Authority.

Thanking you,

Yours sincerely

For **Lightstorm Telecom Connectivity Private Limited**

Lalit Singh Chowdhary
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Enclosure: Our response

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Preamble:

1. We understand from the consultation paper that the objective of the government is to ease bandwidth costs in remote and rural areas. The concern is the lacking transmission infrastructure of TSPs/ISPs in specific regions also rely on leasing DLC to offer services like internet access and other telecommunication solutions to their customers.

2. The Authority has observed in its market study that discounts in the range of 30% to 99% in case of P2P-DLCs are being provided by TSPs. The maximum discount on prescribed ceiling tariff is 94% for P2P-DLCs of <50 Km distance for 10 Gbps (STM-64) capacity. The discount offered in the market for P2P-DLCs of >500 Km distance on their base tariffs on select routes is of the order of 90%. This demonstrates that **there is enough competition in the market.**

3. Thus, based on the prevailing competition in the market and ongoing trends of tariff being offered by TSPs in the enterprise segment, no additional tariff regulation is required at this stage. On the contrary, the level of market maturity and existing competitive pressures justify a move towards **complete tariff forbearance**.

4. **Technological advancements** – The advances in optical transmission equipment viz. DWDM has brought about significant reduction in costs, however the major cost is laying of fibre and associated right of way (RoW) costs. The creation of physical layer requires massive investments with long term cost recovery. The benefit of reduction in cost if any has been passed on to the enterprise customers in this hyper competitive market.

5. **Long investment cycle** – The TSPs have invested in laying fibre in metropolitan and NLD areas which require considerable investment. In addition, the organisation capability in terms of manpower, local offices, equipment and mobility vehicles needs to be deployed to maintain this physical infrastructure. The recovery of this sunk cost and operational expenses have long gestation periods.

6. **Technology neutral regulation** – In our endeavour to reap the benefits of advancement in technology and associated cost reductions, we should also appreciate that the underlying for modern transmission technology viz. MPLS, SDWAN etc, is the huge investments in physical infrastructure. Thus, structuring any tariff regulation singularly on the technology advancements alone has its likely pitfalls. Thus, technology specific tariff regulations should be strictly avoided as regulatory best practice.

7. **Allow pass through charges** – To encourage telecom service providers to continue investment in infrastructure in underserved areas, the DoT should allow pass through benefits for DLC services procured by any TSP/ISP from other service provider. This should be regardless of whether they have UL / UL(VNO) license.

8. **Issue based regulatory intervention** – In view of the open market based competitive pricing in major markets and major routes for all capacities of bandwidth, there is no case for further tariff regulation, rather this is a fit case for de-regulation. In case there are specific

regions in the country that the Authority has identified lacking investment in fibre infrastructure then in that case the Authority should consider the following recommendations: -

(a) **Scheme of incentive** for rollout of physical infrastructure in rural and remote areas under the National Broadband Mission and BharatNet. The incentive may be funded through the Digital Bharat Nidhi fund through competitive bidding.

(b) **Building of Internet Exchange** (IX) in Tier II, Tier III cities so that the cost of proving bandwidth in rural and remote areas in vastly brought down.

(c) **Support build of physical infrastructure** and attract higher investments in transmission networks in terrestrial/submarine routes through lower License fee for NLD/ ILD service providers.

Issues for Consultations

Q1: What is expected to be the likely impact on competition and tariffs in the DLC sector, if the ISPs are permitted to provide DLCs in the future? Please provide your response with justification.

Q2: What is the likely impact of tariffs for DLC on the bandwidth charges (including the transmission costs) or any other costs incurred by ISP operators, especially for ISP B & C operators who do not have their own transmission infrastructure? Further, what are the specific elements of DLC tariff which can be addressed in the regulation to make it more relevant for ISP B & C business? Please provide your response with justification.

P2P and VPN services are critical connectivity enablers for enterprises in today's digital economy. They depend on reliable service providers which are able to deliver not just to vanilla bandwidth but key value additions that enable best utilization of networks. If ISPs are enabled to provide DLCs, without having a national backbone network, or network operation center (NOC), or enterprise SLA management infrastructure, the ISPs will cherry-pick the easiest urban routes, compress already competitive margins on those segments, and create no tangible benefit to remote, rural, low-competition areas. Resulting in enterprise DLCs becoming uneconomical for NLDOs and not a generating real value for ISPs either.

DLC are already included in the scope of NLD services, which has a large number of licensees and sufficient market competition as articulated by TRAI in the consultation paper. Lastly, ISPs interested in selling DLCs may simply procure the NLD license as the license.

TRAI should not enforce a tariff framework on already discounted wholesale bandwidth prices. Price capping such network connectivity will make the business case for investing in long-lasting, resilient network technologies completely uneconomical. Artificial wholesale price floors destroy the investment case for backbone infrastructure, which India in its AI infrastructure buildout, needs a whole lot more.

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There is no case for scope of service duplication under NLD and ISP license.

Q3: Should the MPLS-VPN DLCs be brought under the tariff regulation framework? Please provide your response with justification.

This segment is presently 47% of the connectivity market and growing. This clearly indicates that forbearance is working at its fullest; much more innovation and investment is happening in this domain. Regulatory prudence says that the **status quo of tariff forbearance as adopted in 2014 by the TRAI should continue.**

Q4: What are the key differences in cost structure and service delivery between traditional P2P-DLCs and MPLS-VPNs that should be reflected in tariff regulation? Please provide your response with justification.

The physical layer and P2P DLC is capital intensive but operationally standard. On the other hand, a VPN service involves sophisticated MPLS core networks, Router investments, VRF management, QoS configuration, NOC monitoring and service management. The VPN margin premium over P2P is not rent seeking but reflects genuine value creation through technology investment and operational excellence.

The cost structure is fundamentally different as DLC is network infrastructure and MPLS is service delivery oriented. The cost of implementation of MPLS may vary between service providers based on their design philosophy and cannot be standardized/ benchmarked for costs.

Q5: What has been the impact of deployment of DWDM, SD-WAN and Ethernet-over-Fibre on provisioning of DLCs, in terms of operations, costs and tariffs? Should the regulation incorporate these technological changes in the ceiling tariff framework? Please provide your response with justification.

Yes, technologies have reduced the cost-per-bit in the transmission network; however, the cost savings are re-invested into network builds, capacity upgrades, and new service development. Given the capital intensity and the risk profile, this is barely adequate for continued investment, therefore any assumption that DWDM cost reductions should automatically flow into lower ceiling tariffs, is grossly on the wrong side. The rate of investment in network and infrastructure by NLD service providers is much higher than the cost saving via next generation technology.

Q8: What are the various service commitments (such as bandwidth, SLA requirements such as uptime, latency, packet loss, response time etc.) bundled as part of managed DLC service, for both P2P & VPN based DLC? How are the service commitments offered as part of managed DLC services linked with the tariffs? Please provide your response with justification.

The requirements put forth by the enterprise customers are stringent and this includes :-

- 99.99% uptime on DLC, both P2P and VPN
- 4-hour MTTR on any fault

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- Dedicated account management
- Proactive network monitoring
- Performance reports and analytics
- Integrated security like DDOS mitigation
- Route diversity
- Multiple Redundant paths

It may be seen from the above, that it needs high level of customization to accommodate customer demands to engineer the network solution by bandwidth providers like us. **At present, it genuinely costs 2x to 2.5x more to give a 99.99% uptime circuit as compared to 99.95% uptime circuit**. Lastly, modern cloud and AI workloads for enterprises (such as banks, payment aggregators, financial institutions, government, PSUs, healthcare, IT/ITeS, manufacturing, and others) are now demanding 100% uptime for critical applications.

Q9: Should the proposed regulation include staggered tariffs in line with service commitments, possibly further staggered for different regions, for both VPN & P2P based DLC? If yes, what are the service commitments, mentioned as reply to Q8, which should be considered for tariff regulation?

The cost of serving a remote area is genuinely unpredictable and highly location specific. While the TRAI's intention is to bring down the cost of bandwidth to remote and rural regions, price capping bandwidth would make network infrastructure investments completely uneconomical. The regulator may consider other means like promoting IXPs, increasing the Bharat net mandate to support remote and rural ISPs with DLCs but DLC tariff regulation would not help achieve this objective.

The points 7 and 8 in our preamble to this response may be considered by the regulator.

Q10: What reporting mechanisms should be mandated to ensure transparency in discounts and service bundling for DLCs? Please provide your response with justification.

No additional reporting mechanisms should be mandated for Domestic Leased Circuits (DLCs). The current market for enterprise connectivity is characterized by hyper-competition and extreme price sensitivity, rendering further regulatory reporting unnecessary and counterproductive.

Q11: Should the Authority mandate standardized tariff disclosure formats for all DLC service providers? Please provide your response with justification.

No. Pricing for wholesale bandwidth is based on volume discounts, multi-year commitments, bundled service packages. Making such information public would undermine our commercial relationships and erode future investments in network infrastructure.

Q15: What should the bandwidth capacities be, including the minimum and maximum bandwidth capacity, of P2P DLC for which ceiling tariffs need to be prescribed? In case of bandwidth capacities not regulated in the 2014 TTO, what should be the concomitant value of the relevant factors mentioned at Q13? Please

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The imposition of price ceiling for capacities of 1G, 10G, 100G and above would deter high-capacity network investments, which is exactly what India's digital economy needs. Therefore, such higher capacities should not be regulated, especially not using a ceiling tariff.

Q16: Should the Authority consider the cost methodologies used in other countries for determining tariffs for P2P-DLCs? If so, which methodologies would be appropriate for the present exercise? Please provide your response with justification along with data and assumptions. Telecom Regulatory Authority of India

The US FCC is most instructive in this matter as they are heading towards progressive deregulation in DLCs. This approach also reflects a high growth in Data Center, Cloud, Compute, and Network investments and is supplemented by a flourishing digital economy. India should follow this progressive framework which better matches our growth trajectory instead of following interventionist methods employed by UK or Singapore, which are concerned which different challenges which are not common to India.

Q23: Is there a need for prescribing separate ceiling tariffs for remote and hilly areas? What criteria should be used to define such regions? Please provide your response with justification. Telecom Regulatory Authority of India

Q24: How can the Authority ensure affordability in low-competition areas, such as remote and hilly areas, without distorting market incentives? Please provide your response with justification.

The government should not use price ceiling which will drive away investments. Instead, it must consider becoming an anchor customer / tenant itself with multi-year commitments at viable traffic levels via the BharatNet initiative – which would be the most effective demand generation method justifying the investment of private capital. Alternatively, the government should promote / set up Internet Exchange Points which reduce the need for ISPs operating remote / rural / low-competition regions from procuring expensive DLCs from long distances. This method, we believe, would be much better than tariffs or even Digital Bharat Nidhi subsidization.

The points 7 and 8 in our preamble to this response may be considered by the regulator.