Pre-Consultation Paper on
Review of existing TRAI Regulations on Interconnection Matters

1. We thank the Authority for providing us with the opportunity to provide our inputs on this critical and important subject matter pertaining to the existing TRAI Regulations on Interconnection matters.

2. At the outset COAI submits that best practices should be kept in mind with regard to **the Regulatory Framework for Interconnection :**

    a. The principle of “Fair, Reasonable, Reciprocal and Non-Discriminatory should be adopted.

    b. The interconnect framework should be based on cost-based charging.

    c. Reciprocity in Agreements; Fair and equal terms for all.

    d. Approach of Transparency should be adopted by all operators.

    e. Interconnection should be only with a licensed entity having its own access network.

3. While private TSPs follow all the above framework but it is unfortunate that these framework have not been adopted by PSUs (specially BSNL/MTNL).

4. The Telecommunication Interconnection Regulations (TIR) and other TRAI regulations like Port Charges were established to facilitate seamless interconnection between Telecom Service Providers (TSPs) in India.

5. While these regulations effectively address general aspects such as interconnection timelines, POI capacity and port charges, the current regulation does not encompass critical elements such as POI infrastructure charges, emergency service charges, surrender process/charges and IP interconnection charges leading to indiscriminate and non-reciprocal charging by some TSPs.

6. Therefore, TRAI's intervention is essential to address these gaps. Although TRAI's regulations have largely been successful among Telecom Service Providers (TSPs), their implementation with Bharat Sanchar Nigam Limited (BSNL) has faced significant challenges, leading to operational difficulties.

7. Furthermore, over the past two decades, TRAI has issued multiple interconnection regulations and subsequent amendments. We submit that to enhance clarity, consistency, and ease of reference for stakeholders, it may be prudent to consolidate all existing regulations and amendments into a single, comprehensive interconnection regulation that reflects current industry practices and simplifies compliance. This **consolidated regulation** will serve as a ready reckoner for all stakeholders.

8. In view of the above, our initial submission is as follows:

A. LSA Based Interconnection:

i. TRAI, in its recommendations on the National Numbering Plan (NNP) has highlighted the need to review the Telecommunication Interconnection Regulations (Second Amendment) 2020 (TIRs) to address the numbering resources constraint and assist implementation of the LSA based fixed line numbering series.

ii. The proposal suggests shifting POIs from the LDCA level to the LSA level for smoother transition.

iii. Hence, we urge TRAI to establish a framework for LSA-based interconnection to accelerate the implementation of its above-stated recommendations.

B. IP-Based Interconnection:

i. TSPs are implementing advanced technologies such as IMS, 4G and 5G to deliver world-class telecom services. Enabling IP-based interconnection will ensure seamless connectivity, enhanced Quality of Service (QoS) and facilitate the adoption of advanced 4G codecs for improved voice quality.

ii. With the transition to IP networks, even BSNL has replaced its traditional TDM-based circuit-switched networks with IP-based packet-switched NGN core networks. Additionally, BSNL has deployed a single IP TAX Trunk Media Gateway (TMG) in each LDCA cluster across all circles.

iii. The shift towards IP-based interconnection is steadily progressing. , As all private service providers continue upgrading to IP networks, a phased migration to IP interconnection is inevitable.

iv. TSPs accelerate their 4G/5G rollout requiring IP-based interconnection to enhance service quality, particularly for VoLTE-to-VoLTE calls. Therefore, private TSPs are aligned to migrate to IP based interconnection and similarly PSUs (BSNL/MTNL) should be mandated to adopt a phased approach toward IP interconnection.

v. All other operators barring BSNL have centralized POIs for both fixed-line and mobile traffic, even BSNL manages mobile traffic centrally. Given the minimal volume of fixed-line traffic, it can be efficiently handled through a centralized interconnection.

vi. Establishing a centralized POI for fixed-line services will help address delays in commissioning and ensure compliance with TRAI regulations by making interconnection more streamlined.

vii. Since all TSPs including BSNL is already having centralized switching in most cases, the centralized POIs for fixed-line traffic at the LSA level on IP interconnection, can be prescribed, leading to operational efficiency and cost reduction.

viii. Therefore, we propose that TRAI mandates phase-wise migration to IP-based interconnection and centralized POIs at the LSA level for fixed-line traffic between TSPs including PSUs with NIL charges applicable for carriage/transit within the intra-LSA network of a TSP, ensuring the immediate migration of existing Fixed Line POIs.

ix. Although private TSPs are not charging each other for IP interconnect but BSNL is insisting that non regulation of IP interconnect cost is one of the bottlenecks. Therefore we urge TRAI to regulate the IP interconnection cost.

x. Another key point of deliberation can be the need to address the UCC through SMS through a deterrent charge that will be payable by the Originating operator to terminating operator. Currently, TRAI has implemented the deterrent charge at Rs. 0.05/SMS on A2P SMSs, which needs to be increased to Rs. 0.10/SMS for it to better reflect the work done on DLT related implementations over the past few years.

9. With regard to the Regulations listed by TRAI in the Pre-Consultation Paper dated April 03,2025, our submission is as under:

A. Telecommunication Interconnection Regulations, 2018:

a. BSNL's Classification of Other TSPs as Perpetual Seekers

i. As per the 2018 TIR regulation, the seeker is responsible for the interconnection cost for both incoming and outgoing traffic during the first two years. Beyond this period, each TSP must cover the cost for its outgoing traffic, including transmission media.

ii. However, under the existing interconnection agreements with BSNL (except in Delhi and Mumbai), other TSPs continue to be classified as seekers and are still paying POI infrastructure costs beyond the two-year period, as BSNL treats them as perpetual seekers.

iii. We request TRAI to issue clear directives to BSNL, affirming that no TSP should be treated as a perpetual seeker. After the mandatory two-year period, each TSP should be responsible for covering interconnection costs for its outgoing traffic, including transmission media, POI infrastructure costs and port charges.

b. TRAI to review the regulation (amendment dated July 5, 2018) for payment of POI infrastructure and port charges prior to February 01, 2018

i. According to TRAI's amended regulation (August 2018), TSPs are required to continue paying for POI infrastructure and port charges for interconnections established before 2018.

ii. However, TRAI's own regulation states that after the initial two-year period, all ports should be converted to one-way basis outgoing traffic ratio of past 2 months and each TSP should bear the cost of its outgoing traffic.

iii. The purpose of converting the ports to one-way is to allow each operator to manage its own outgoing traffic independently, thereby reducing dependency on others and minimizing cost burdens. Considering that most of the ports commissioned with BSNL were established before 2018 and are 2-way ports, this objective is undermined if private operators are required to continuously pay for both their own and BSNL's outgoing traffic indefinitely.

iv. **Hence, we submit that the TSPs should not be required to pay port and infrastructure charges following the conversion of ports to one-way traffic, as these facilities are being maintained by the TSPs at their own expense.**

c. Traffic Capacity Bifurcation:

i. The 2018 regulation of TRAI mandated the bifurcation of existing POIs based on utilization of incoming and outgoing traffic.

ii. All private TSPs have bifurcated existing POI's basis utilization and is responsible to incur cost for its outgoing traffic only. However, despite this directive, BSNL failed to implement the regulation in a timely manner.

iii. Hence, we urge TRAI to ensure that BSNL takes immediate steps to adhere to the regulation by properly bifurcating traffic as mandated.

iv. Work closely with our member TSPs to resolve existing billing disputes and streamline settlement processes, ensuring that future interconnection agreements are processed efficiently and in line with regulatory expectations.

d. POI Infrastructure Charges:

i. According to TRAI's 2018 regulations (para 10), infrastructure charges should be mutually negotiated between service providers, ensuring they remain reasonable, transparent and non-discriminatory.

ii. However, BSNL unilaterally determines these charges, setting them at exorbitant rates with an annual increase of 10%.

iii. One of the major interconnection costs with BSNL is the POI infrastructure service charges (covering space and power). These charges are categorized based on city classifications (X, Y, and Z) and have escalated by approximately 500% between 2010 and 2025 due to the yearly 10% increment, as illustrated below:

Year	City Type X (in Lac ₹)	City Type Y (in Lac ₹)	City Type Z (in Lac ₹)
2010	3.14	2.76	2.26
2025	16.42	14.4	10.4

iv. Given the excessive and unreasonable nature of these charges, we urge TRAI to regulate them at the earliest.

e. Delays in POI Commissioning:

i. As per the 2018 Regulations, Points of Interconnection (POIs) must be established within 42 days. All private TSPs are adhering to the above TRAI timelines while BSNL consistently fails to meet this deadline in most circles, affecting service quality, network expansion and the rollout of voice services, as interconnection with BSNL is mandatory.

ii. The delays in interconnection create significant challenges in network expansion planning, leading to uncertainty in business operations and disruptions in service rollout schedules. This has resulted in roll out delays of voice services along with broadband services.

iii. Therefore, we propose that establishing a BSNL POI should not be a mandatory prerequisite for launching voice services and BSNL should be held accountable for ensuring POI commissioning within the stipulated 42-day timeframe.

f. Abolition of Transit Carriage Charges:

i. The Indian telecommunications sector has successfully transitioned to a Bill and Keep (BAK) regime for domestic Interconnection Usage Charges (IUC), effectively eliminating termination charges between operators. This shift has simplified inter-operator settlements and removed a key source of disputes among service providers.

ii. BSNL's continued imposition of transit carriage charges is an outdated practice within an otherwise modernized interconnection framework. These charges no longer have economic justification, as network architectures and traffic dynamics have evolved significantly.

iii. The imposition of these charges creates an unjustified financial burden on other service providers, as the rates often appear arbitrary and disconnected from actual network costs. This contradicts the regulatory push towards simplifying and rationalizing the interconnection charges.

iv. To align with modern network structures and traffic flows, the regulatory framework should eliminate transit carriage charges. Their removal would reflect actual cost structures, promote fairer interconnection practices and simplify inter-operator settlements without impacting network performance.

Since transit charges no longer correspond to real costs or investments, abolishing them would enhance transparency and encourage efficient network investments.

v. We urge the Authority to take decisive action to eliminate transit carriage charges and modernize India’s interconnection regime for a fair and efficient telecom ecosystem.

g. Surrender of POIs:

i. The private TSPs follow reciprocal rights for surrender of POI capacity but this is not there when TSPs surrender POI/Port with PSUs. Our member TSPs encounter difficulties when attempting to surrender POIs, Port/POI infrastructure with PSUs. The right to surrender PoIs or ports should be reciprocal, aligning with the principle that each party bears the cost of its outgoing traffic.

ii. There should be a provision to surrender either specific capacity at a PoI or the entire PoI. This right should be available to both parties, and any surrender request initiated by one party should be processed and approved by the other within four weeks of receipt.

iii. However, in reality, most of the time surrender requests are not addressed or responded to by BSNL within the stipulated timeline and our member TSPs are left chasing BSNL for the whole year at times with no success.

iv. This gives financial advantage to BSNL, who continues to then bill annual charges to TSPs even for the pending surrender ports and unfairly compels them to make payment for the underutilized, non-operational ports, even though they have been put up for surrender.

v. Under TIR 2018, TRAI has regulated the timeline for various sub-processes for entering into interconnection and setting up of POI. Similarly, it is important that TRAI also regulates the timelines and cost for exiting or surrender of a POI/ports.

vi. **Therefore, to ensure that the process for surrender of PoIs is simplified and completed in a time-bound manner, we strongly urge TRAI to regulate the process, formats, timeline and costs of surrender of POIs through suitable provisions incorporated in the TIR. If BSNL doesn't respond in a defined period, then there should be no charges applicable for the said POI/ports and the private TSP should be free to remove its related equipment.**

B. SMS Termination charges Regulations, 2013:

i. The TRAI SMS Termination Charges Regulations, 2013, standardized SMS termination fees to prevent anti-competitive pricing and ensure fair access across networks. This regulation prescribed the charges at 2 paise per SMS.

ii. However, the Regulation doesn't provide for SMS carriage charges, in case NLD operator carries the SMS from originating access provider and hands over to the terminating access provider. This poses challenges for service providers intending to take single/multiple LSA authorisation to serve niche use cases but, without intending to build a pan-India interconnected NLD network.

iii. Therefore, it is important that a SMS carriage charge is prescribed so that an effective and competitive market mechanism is built, for new service providers to enter the market with even single/few LSA authorisation."

C. Intelligent Network Services in Multi-Operator and Multi-Network Scenario Regulations, 2006:

i. The Intelligent Network (IN) Services in Multi-Operator and Multi-Network Scenario Regulations, 2006 were framed to govern the provision of IN services (such as toll-free numbers, premium-rate services, and VPN) across multiple operators.

D. TRAI (Transit Charges for BSNL's Cell One Terminating Traffic) Regulation, 2005:

i. The Hon'ble TDSAT vide its judgment dated May 3, 2005, had directed that :
"……On considerations of level playing field, we direct that BSNL should stop charging 0.19 paise from cellular operators by way of transit charges for accessing BSNL CellOne subscribers, wherever the MSCs of both BSNL CellOne and Private CMSOs are connected to the same BSNL switch. We are of the view that our direction will take effect from the date of this judgment. We authorize TRAI to make this part of the regulatory regime."

ii. Pursuant to the above Order of the Hon'ble Tribunal, TRAI, on June 8, 2005, issued Regulation No. 10 of 2005 whereby the above directions of the TDSAT were made part of the interconnect / regulatory regime. Para 2 of the Regulation states as below:

"No transit charge shall be levied by BSNL (Bharat Sanchar Nigam Limited) on Cellular Operators for accessing BSNL's CellOne subscribers, wherever the MSCs of both BSNL's CellOne and Private CMSOs' are connected to the same BSNL switch."

iii. **BSNL should not charge for Cell One Termination traffic irrespective of the location of MSC. BSNL has provided direct connectivity with Cellone and stopped charging for transit charge for Cellone terminating traffic routed through its network.**

E. The Telecommunication Interconnection Usage Charges Regulation, 2003:

i. It is pertinent to note that the current International Termination Charge, pegged to the 2020 US Dollar exchange rate, no longer reflects the ground realities.

Presently, TSPs have to pay significantly higher termination charges to terminate their services in other countries due to the depreciation of the Indian Rupee against the Dollar, leading to an imbalance in cost recovery. This mismatch disproportionately impacts TSPs, as their revenue from international traffic remains low and stagnant while their payout obligations have increased. Thus, the present currency rate must be taken into consideration while fixing the International Termination Charges.

ii. The low ITC rate of ₹0.65 facilitates fraudulent activities, **leading to increased spam, phishing attempts and financial scams**. Several recent cases have highlighted the severity of the issue. Indian banks and financial institutions have reported rising instances of fraudulent calls from international numbers impersonating officials from the Income Tax Department, RBI and law enforcement agencies.

iii. In light of the above, there is an **urgent and compelling need to significantly increase the International Termination Charge**.

iv. It is also pertinent to note that other countries have higher termination rates, which also act as a deterrent against such fraud/misuse.

v. **Therefore, we request the upcoming consultation should also deal with review of termination charges for international incoming calls, with an aim of suitably increasing it in line with international benchmarks.**

F. <u>The Telecommunication Interconnection (Reference Interconnect Offer) Regulation, 2002:</u>

No Comments

G. <u>The Telecommunication Interconnection (Charges and Revenue Sharing) Regulation, 2001:</u>

No Comments

H. <u>The Telecommunication Interconnection (Port Charges) Regulation, 2001:</u>

i. The current port charges are regulated by the *Telecommunication Interconnection (Port Charges) (Second Amendment) Regulations, 2012*, issued on September 18, 2012. The prescribed charges are as follows:

Coverage	Port Charges (₹ Per port per annum) for MSC	Port Charges (₹ Per port per annum) for Tandem TAX Switch
Other than Internet Port Charges	4,000	10,000

ii. We submit that these E1 port charges were determined based on the market conditions in 2012. Given that 13 years have passed since then, a revision is necessary to reflect the current telecom landscape.

iii. **Hence, given the changes in the market dynamics over the past 13 years, we submit that the E1 port charges for both mobile and fixed line should be adjusted to align with the current market scenario, ensuring that they are fair, competitive and reflective of modern infrastructure and technology costs.**

I. The Register of Interconnect Agreements Regulation, 1999:

i. The Telecom Regulatory Authority of India (TRAI) Register of Interconnect Agreement Regulations, 1999 were introduced to ensure transparency and non-discrimination in interconnection arrangements between telecom service providers (TSPs). These regulations mandate that all interconnection agreements (for voice, data, and other telecom services) be registered with TRAI to prevent anti-competitive practices and promote fair access to networks.

ii. The Regulation prescribes submission of copies of Interconnect agreements in both print form as well as soft copy, by the service providers. The related extract of the Regulation is given as follows:

"6. All service providers shall furnish to the Authority two copies each of the Interconnect Agreements along with modification(s), if any, thereto in print form, duly authenticated, along with a soft copy of it in a floppy/diskette of 3.5" size in Microsoft word software and also in such other form as may be prescribed from time to time."

iii. In this regard, we submit that seeking print copies as well as soft copies in floppy/diskette, is a traditional and outdated form of submission. In today's digital era, the print-copies and submission in floppy/diskette should be replaced with an end to end digital process.

iv. Further, the access to the Register of Interconnect agreement or copy of pages of any Interconnect agreements should also be made available through an end-to-end digitized process. Accordingly, their respective fees should also be reviewed and realigned.

J. Other Interconnection Issues

Apart from the above, we would like to highlight the following other issues, which are as follows:

a. Duct and Passive Cable Charges:

i. BSNL imposes separate charges for duct usage, even though these costs should already be included in the POI infrastructure charges. The current charges are as follows:

   (a) In certain locations, duct charges amount to several crores of rupees.

   (b) The passive cable charges are set at ₹ 3,000 per E1 cable.

ii. Therefore, we request TRAI to prohibit BSNL from levying additional duct charges, as these should be considered part of the port and POI infrastructure charge.

b. <u>Emergency Services Charges:</u>

i. Historically, essential services such as the Police, Ambulance and Fire Departments relied on telecom resources provided by the incumbent operator, the erstwhile DoT, which was the sole service provider at the time. Due to this, BSNL/MTNL has inherited this responsibility, continuing to facilitate emergency services, including 100 (Police), 101 (Fire), 102 (Ambulance) and 108 (Emergency Disaster Management), among others.

ii. Over time, centralized Emergency Response Support System (ERSS) centers have been established and most Telecom Service Providers (TSPs), including BSNL, now route emergency service calls through their own networks. However, some emergency services, such as 102 and 108, remain decentralized. Many emergency service providers prefer not to manage multiple telecom resources across various operators, making it necessary for other TSPs to route these calls via BSNL/MTNL.

iii. Since connectivity to emergency services are a regulatory mandate of national importance, they are made accessible to consumers free of charge. While MTNL has adopted a fair and transparent methodology by charging for emergency services on a **per call basis**, BSNL impose excessive charges for these services, including a lump sum fee that increases by 10% annually, in addition to per-call charges. This lump sum charge has risen significantly, from ₹10 lakh per LSA per year in 2010 to ₹41.8 lakh per LSA per year by 2025.

iv. Given that connectivity to emergency services is a licensing requirement, TSPs are left with no alternative but to comply with BSNLs excessive charges. This places an undue financial burden on operators, compelling them to route emergency calls through BSNL at unjustified and unreasonable costs.

v. We request TRAI to prescribe cost based IUC for emergency services on a per minute voice call basis, eliminating all other lump sum fees.

c. <u>Miscellaneous Charges:</u>

i. **Software Charges/Port Set-up Charges:**

   (a) One-time setup charges at the time of POI configuration in BSNL node is ₹ 10,000/- per E1s with upper limit of Rs One lakh. Even though the amount of work to be carried out for POI configuration at both the ends is same, still BSNL charges TSPs for the configuration done by BSNL in its node.

(b) We submit that these charges should be discontinued immediately as all interconnects presently are both ways.

ii. **Shifting charges when point code is changed at operator end**:

(a) Any Signalling point code change request made by TSP to BSNL is charged by BSNL at a rate of ₹ 10,000/- per E1s subject to maximum limit of ₹ 100,000/-.

(b) However, BSNL does not pay any similar amount to TSPs in case there is a requirement of change of Signalling Point Code at BSNL's end.

(c) We submit that the reciprocity principle should be implemented w.r.t. shifting charges to ensure fairness in the procedure.

d. <u>Implementation of Reciprocity Principles:</u>

i. While the TSPs have adopted reasonableness/fairness and reciprocity as basic principle for interconnection, but these are not part of the interconnection regime with PSUs. The terms of the agreement with PSUs are unilateral as the agreement was framed at the time when these PSUs had monopoly and TSPs were constrained to accept these terms for the sake of mandatory interconnection for launch of services. Therefore the existing agreement of TSPs with PSU needs to be modified with underlying features of fairness/reciprocity and aligned with the regulations.

ii. The existing port charge framework lacks mandatory reciprocity in both port charges and financial instruments such as Bank Guarantees. Additionally, service providers are often subjected to higher interest rates on delayed payments to BSNL, whereas BSNL pays no interest at all on its outstanding dues to other service providers.

iii. The terms and conditions related to billing, payments, reconciliation and dispute resolution are currently one-sided due to which there is an imbalanced, unfair financial relationship between BSNL and private service providers. Implementing reciprocity in such cases would ensure that all parties share financial responsibilities proportionately, preventing any operator from imposing obligations without being subject to the same requirements.

iv. Making reciprocity a fundamental principle would enhance fairness in the interconnection framework, while minimizing financial disputes. Hence, TRAI should mandate that all interconnection agreements adhere to reciprocal terms across all operators. This would establish a level playing field, ensuring symmetrical financial obligations and rights, in proportion to interconnection relationships.

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