

Comments of Confederation of Indian Industry (CII)

Industry comments on TRAI's Consultation Paper on "Review of existing TRAI Regulations on Interconnection matters" dated 10th November 2025

A. Introduction:

- 1 The Indian telecom sector has undergone a fundamental transformation driven by rapid technological advancements, the expansion of Internet Protocol (IP) -based networks, exponential growth in digital communications, and the emergence of new categories of service providers, which merely serve as aggregators. These developments have significantly altered traffic patterns, network architectures, and the nature of traffic on inter-operator interconnection.
- 2 In this context, it has become imperative to modernize the interconnection regime to ensure fairness, efficiency, technological alignment, and consumer protection. The following submission highlights the key emerging trends shaping the interconnection landscape and proposes necessary regulatory actions to update and strengthen the interconnection framework in line with current and future requirements.

B. New Trends Necessitating an Updated Interconnection Regime:

1. Emergence of All-IP (All Internet Protocol (end-to-end IP-based) Based Networks necessitating mandatory IP-based Interconnection:

- a. The Indian telecom sector has largely transitioned toward all-IP networks, driven by pan-India 4G and 5G deployments and the swift expansion of high-speed home broadband.
- b. IP-based networks offer superior efficiency, scalability, and interoperability; however, the existing interconnection framework, substantially designed around legacy Time Division Multiplexing (TDM) architecture, has not kept pace with this evolution. Particularly, BSNL's slow migration to IP POIs (Point of Interconnection) is negatively affecting customer experience and interoperability.
- c. As a result, the current Point-to-Point (P2P) POI structure remains operationally complex, capacity-intensive, and technologically outdated. **A future-ready interconnection framework must therefore mandatorily shift towards IP-based interconnection across all levels which will:**
 - (i) Support seamless connectivity, better customer experience, and rapid network modernisation.
 - (ii) Eliminate legacy TDM bottlenecks, unnecessary **Acceptance Testing Procedures (ATP)** processes, and months-long delays.
 - (iii) Enable unified POI frameworks, better resilience, and simplified capacity augmentation.

- (iv) Be essential for realising the benefits of 5G, VoLTE/VoNR, future fixed-mobile convergence, and the impending unified numbering regime.

2. Unification of POIs:

- a. The evolution of IP-based network architectures and technologies has introduced advanced routing capabilities. These enhancements enable greater efficiency in the POI architecture and significantly improve resilience against infrastructure failures.
- b. However, current POIs are fragmented across traffic types, Access, National Long Distance (NLD), Mobility, Fixed line, with additional legacy obligations for SDCA-level interconnection with BSNL.

Migration to Unified Licensed Service Area (LSA) level interconnection is necessary and aligns with TRAI's recommendations for a 10-digit closed numbering scheme and future Fixed Location Routing Number (FLRN) based unified numbering, TRAI should permit TSPs to adopt centralized POIs for all types of PLMN and PSTN calls at LSA level.

3. Escalation of Spam and Scam Calls from International Routes

- a. Existing provisions were not designed to handle large-scale unsolicited communication. The misuse of international routes for spoofing, flash calls, and identity masking further amplifies risks.
- b. Therefore, the current framework requires explicit strengthening to ensure that:
 - a. The surge in international spam/scam and flash calls necessitates an upward revision of the international termination charge:
 - a. Higher International Termination Charge (ITC) will disincentivise international spoofing and misuse of low-cost overseas routes for fraudulent traffic. Accordingly, the international termination charge must be revised upward urgently in the interest of security, consumer protection, and fair cost recovery.
 - b. This is also needed to ensure reciprocity with foreign operators, address exchange-rate depreciation, prevent the international bypass and protect Indian subscribers from fraudulent international communication.

C. Other Interconnection Reforms:

1. Reducing the Time for Establishment and Augmentation of POIs:

- a. Although the Telecommunication Interconnection Regulations, 2018 (TIR-2018) introduced a more structured and time-bound framework for interconnection, the

practical experience of operators, particularly in interactions with BSNL, continues to reflect substantial delays.

- b. The establishment and augmentation of POIs still take significantly longer than the prescribed timelines due to **multiple sequential ATP processes, extensive documentation requirements, and non-standard internal procedures** followed by BSNL across circles. These procedural rigidities often cause avoidable delays in POI provisioning, affecting end-user experience, especially during peak traffic periods.
- c. In keeping with the principles laid down in TIR-2018, it is necessary that the process be **simplified, standardised, and digitised** so that all operators follow the same set of procedures without discretionary interpretations. This includes:
 - i. Streamlining ATP steps and avoiding repetitive testing where prior clearance exists.
 - ii. Ensuring uniform adherence to timelines across all LSAs.
 - iii. Digitised workflow systems with transparent status tracking.
 - iv. Standardised documentation and escalation mechanisms.

A uniform approach will significantly reduce POI establishment timelines and ensure that augmentation is undertaken in a timely manner, commensurate with actual traffic growth.

2. **Comprehensive “Indian Interconnection Code:**

- a. The existing interconnection framework has evolved through numerous regulations, amendments, and orders issued over more than two decades. These are dispersed across multiple regulations/directions, resulting in inconsistencies and scope for unilateral interpretations by operators, particularly those still following legacy frameworks.
- b. To address this, there is a clear need for a **comprehensive and consolidated “Indian Interconnection Code”** that brings all interconnection-related provisions under one umbrella. The Code should be structured into two chapters:
 - **Chapter 1: POI Establishment, Augmentation, Processes and Timelines:**
This chapter should consolidate all procedural requirements presently contained in TIR-2018, covering:
 - i. POI request and provisioning process
 - ii. ATP protocols
 - iii. Augmentation criteria based on utilisation
 - iv. Documentation requirements
 - v. Timelines applicable to all operators uniformly
 - vi. Escalation procedures

This chapter will ensure clarity and eliminate ambiguity in operational processes.

- **Chapter 2: Charges and Financial Framework**

This chapter should consolidate all charging-related provisions currently scattered across various instruments, including the Interconnection Usage Charge (IUC) Regulations, 2003. It should cover:

- a. Domestic IUC
- b. Infrastructure-related charges
- c. Emergency call-handling, and other technical charges
- d. Any charges applicable to IP-based interconnection

A consolidated charging framework will bring uniformity and ensure that no operator levies charges that are inconsistent with regulatory principles.

3. Preventing Unilateral and Non-Standard Charges by BSNL:

- a. There remains a persistent issue of BSNL continuing to levy **legacy charges** that have no relevance in the present regulatory environment. These include port charges, duct charges, infrastructure charges, transit charges, and emergency call-handling charges. These are:
 - i. Not levied by private operators
 - ii. Not reflective of the current IP-based or Next Generation Network (NGN) frameworks
 - iii. Contrary to the principle of regulatory parity
- b. Such non-standard charges create a non-level playing field and impose avoidable costs on other service providers. The consolidated Interconnection Code must categorically prohibit the levy of such charges unless expressly provided for by regulation.

4. Need for Reciprocity in Media Provisioning

- a. Private operators currently bear the entire cost of establishing media for both outgoing (OG) and incoming (IC) traffic towards BSNL. This unilateral obligation is not aligned with principles of fairness, especially given the bilateral nature of interconnection.
- b. Therefore, mandatory reciprocity should be prescribed so that:
 - i. Each operator shares provisioning responsibilities equitably.
 - ii. BSNL also establishes media for its originating traffic.
 - iii. Costs are aligned with traffic direction or symmetric arrangements.

Question-wise Responses:

Q.1 For Public Switched Telephone Network (PSTN) to PSTN, Public Land Mobile Network (PLMN) to PSTN and PSTN to PLMN, should the interconnection level be specified at LSA

level? If yes, should the existing POIs at the Long-Distance Charging Area (LDCA)/ Short Distance Charging Area (SDCA) level also be migrated to the LSA level? Kindly justify your response.

Response:

1. **Yes, the interconnection level for PSTN–PSTN, PLMN–PSTN and PSTN–PLMN should be specified, standardized and made uniform at the LSA level, and all existing POIs at the LDCA/SDCA level should be migrated accordingly.** With the Indian telecom sector having transitioned to all-IP architectures, the retention of sub-LSA interconnection points, originally designed for circuit-switched, geographically constrained networks, has become operationally redundant. TRAI has already mandated phasing out SDCA-level POIs under TIR-2018, and the five-year transition period has expired; therefore, mandating LSA-level interconnection is consistent with the regulatory direction and necessary for uniformity, efficiency, and technological alignment. LSA-level consolidation will simplify network architecture, improve resilience, reduce fragmentation across fixed and mobile domains, and enable seamless capacity augmentation by avoiding repetitive ATPs and legacy bottlenecks, especially in interactions with BSNL.
2. The interconnection level for PSTN to PSTN, PLMN to PSTN and PSTN to PLMN should be specified at LSA-level. The existing Pols at the LDCA/SDCA-level should also be migrated to the LSA-level within prescribed timelines.

Q.2 For PSTN to PSTN, PLMN to PSTN, PSTN to PLMN and PLMN to PLMN, should interconnection be allowed at a level other than the LSA level, based on mutual agreement? Kindly justify your response.

Response:

Q.3 Based on your response to Question 1 and 2 above, what changes, if any, are required in the level of interconnection / point of traffic handover as provided in the following:

- (a)Telecommunication Interconnection Regulations (TIR), 2018, and
- (b)Guidelines annexed to the Telecommunication Interconnection (Reference Interconnection Offer) Regulations, 2002? Kindly justify your response.

Response:

1. Yes changes are required in both the Telecommunication Interconnection Regulations (TIR), 2018 and the Guidelines to the Telecommunication Interconnection (Reference Interconnection Offer) Regulations, 2002.
2. **These** regulations should clearly stipulate that the *Licensed Service Area (LSA) shall be the mandatory level of interconnection* for PSTN–PSTN, PSTN–PLMN and PLMN–PSTN traffic.

Q.4 Is there a need to mandate multi-path resiliency and redundancy in the Point of Interconnection (POI) framework to mitigate link failure at the primary POI in the case of: PSTN-PSTN interconnection, PLMN-PLMN interconnection, and PLMN-PSTN interconnection?

If yes, kindly provide an appropriate architectural framework with diagram. Kindly justify your response.

Response:

Q.5 Is there a need to incorporate security provisions in the interconnection framework to ensure network security? If yes, kindly provide details along with an appropriate architectural diagram. Kindly justify your response.

Response:

No. There is no requirement to incorporate separate security provisions within the interconnection framework. Modern telecom networks are built on security-by-design principles, and every licensed service provider is already obligated to ensure end-to-end network security as part of its licensing conditions. In addition, a comprehensive security regime has been established under the Telecommunications Cyber Security Rules issued pursuant to the Indian Telecommunications Act, 2023.

Given this robust and overarching security architecture, introducing additional or interconnection-specific security mandates would be duplicative, could create operational and compliance complexities, and may even result in inconsistencies with the existing regulatory security framework.

Q.6 (a) Should IP-based interconnection be mandated for new interconnections in the regulatory framework? Kindly justify your response.

(b) Should TSPs be mandated to migrate existing TDM based E1 (E1 digital trunk (2.048 Mbps PCM carrier) interconnection to IP-based interconnection within a specified period? If yes, suggest timelines. Kindly justify your response.

Response:

(a) Yes, IP-based interconnection should be mandated for all new capacity augmentations or new PIs. . Globally, the industry is steadily transitioning to IP interconnect, and several international bodies have already defined technical standards and migration pathways. The Authority itself has recognized in its *Recommendations on Revision of the National Numbering Plan (6 February 2025)* that IP-based interconnection is the most efficient architecture for managing voice traffic and will be essential for ensuring future numbering integrity. Modern telecom networks are inherently IP-native, and continuing to rely on legacy TDM connectivity

leads to avoidable protocol conversions, additional latency, and inconsistent Quality of Service (QoS). Therefore, mandating IP-based interconnection for all new POIs is the logical and urgent next step.

(b) Yes, existing TDM-based E1 interconnections should be mandated to migrate to IP-based interconnection in a time-bound but phased-wise manner. . Despite having upgraded to an all-IP core and deployed nationwide 4G, BSNL remains the only operator resisting this shift, largely to preserve charges linked to inefficient, legacy TDM POIs. For operators offering 4G, 5G, and future services such as inter-operator video calling, full transition to IP is indispensable. A phased but time-bound migration will ensure harmonised, universal IP-based POIs at the LSA level, eliminate protocol conversion overheads, and deliver consistent voice quality across networks. Given the maturity of IP deployments within operators' own networks and global implementation experience, a regulatory mandate for migration is both necessary and inevitable.

Therefore, a phase-wise migration from TDM to IP interconnection is essential to ensure long-term sustainability, efficiency and competitiveness of national telecommunications networks. The shift aligns with global regulatory evolution and delivers significant technological, economic, operational and consumer-experience benefits.

For this phase-wise migration, a clear and all-encompassing regulatory mandate and push is essential to align the entire telecom sector with the all-IP future, maximizing efficiency and aligning with the advanced technologies, enriching the consumer experience.

Q.7. Should the existing processes of 'provisioning and augmentation of ports at POIs' under Chapter IV of the TIR 2018 in respect of following need revision: Seeking of ports at POIs, Request for initial provisioning of ports, and Request for augmentation of POIs? Kindly provide your response with justification.

Response:

The existing framework were designed considering the legacy TDM networks and need to be revamped considering the modern IP networks, with strict timelines for provisioning the capacities.. Also, learnings from the past indicate clearly that the only exception is BSNL due to its non-adherence. We submit that, r, the priority should be to ensure BSNL's full compliance with the timelines supported by appropriate enforcement mechanisms.

Further, TRAI may also recommend simplification of port provisioning process by way of adopting automation with standardised SLAs to replace any lengthy manual procedures with

digital workflows and clear timelines. This supports rapid scaling (cost-efficient growth) and reduces entry barriers by speeding up interconnect setup.

Q.8. Should the existing framework for Interconnection process and timelines, as provided in the existing TRAI regulations including, The Telecommunication Interconnection Regulations (TIR) 2018, The Telecommunication Interconnection (RIO) Regulations, 2002, and The Telecommunication Interconnection (Charges and Revenue Sharing) Regulation 2001 be revised or continued.

Kindly indicate challenges, if any, currently being faced in the implementation of the framework by the TSPs and their possible remedies. Kindly provide your response with detailed justifications.

Response:

1. We believe that TIR 2018 needs overhaul considering the IP based interconnection, LSA level POIs as well as providing for stronger compliance enforcement. The Regulation should also provide for coordination committee for smooth migration on IP based interconnection and LSA level POIs.
2. Similarly, other interconnection regulations must make compliance unequivocal and to ensure uniformity across all service providers.

With respect to the *Telecommunication Interconnection (RIO) Regulations, 2002* and the *Telecommunication Interconnection (Charges and Revenue Sharing) Regulation, 2001*, most of their functional provisions have already been absorbed into the TIR 2018 and IUC 2003 frameworks. As a result, these legacy regulations may be repealed, but with residual guiding principles—if still relevant it—can be consolidated within TIR 2018 or incorporated into the proposed Indian Interconnection Code.

4. **Pols should be deemed commissioned within 42 days** from the date of application, regardless of pending procedural formalities. Upon completion of this period, the applicant should be permitted to roll out services without further delay. This measure will significantly reduce bottlenecks and accelerate service deployment.
5. Bifurcation of Pol capacity on each TSP's own/underlying media, as envisaged under the TIR 2018, should be enforced retrospectively from 2018, with defined accountability and redressal timelines.
6. Clear and enforceable directions should be issued, mandating that no operator is treated as a perpetual "seeker" beyond the stipulated initial two-year period
7. The interconnection arrangements are also fraught with various allied charges which are forced on the service providers in the name of seeker-provider relationship and bring in lot of inefficiencies and avoidable costs into play.
8. Some of these charges are being imposed in the name of infrastructure charges, emergency service charges, set-up charges, surrender of POIs and/links, Active link charges, Passive link charges, shifting of POIs, one-side interest on delayed payments etc.
9. As interconnection is mandatory, we strongly urge the Authority to deal with all the interconnection related charges, in whatever form/name, and regulate the same.

Q.9 Whether there is a need to revise the existing process of disconnection of POIs as provided in the regulation 11 of the Telecommunication Interconnection Regulations (TIR) 2018? If yes, what specific changes should be done in the disconnection procedure? Kindly justify your response.

Response:

- 1 As stated above, we reiterate that once the IP based interconnection is fully adopted by all TSPs in India, many provisions of the TIR 2018 and other interconnection regulations designed for a previous era will become redundant. Thus, the interconnection Regulations for telecom will require a comprehensive review to create a new, efficient framework for managing IP-based interconnections.
- 2 Yes, we believe that there is a strong need to revise the existing process for the disconnection of Points of Interconnection (POIs) as provided in Regulation 11 of the Telecommunication Interconnection Regulations (TIR) 2018.
- 3 There is a need to bring:
 - a. Mandate a robust Disconnection Procedure which clearly provides for what constitutes a valid 'cause' or 'reason' for disconnection, to safeguard against arbitrary disconnection.
 - b.
 - c. Mandate Time-Bound Closure of TDM POIs

The entire notification process for disconnection and augmentation should be digitized and made automated.

Q.10 Is there a need to introduce a process for the surrender or closure of POIs in the regulatory framework? If yes, what should be the criteria, procedure, charges, and timelines, including the minimum retention period for POIs before a surrender or closure request can be made? Kindly justify your response.

Response:

The surrender of POIs is necessary. At present, the one-sided agreements from BSNL gives unfettered powers to BSNL to delay the ports surrender and hence, it continues to levy the annual port charges and infrastructure charges, thus, hampering the traffic routing optimisation activities and continues to enrich BSNL at the costs of other TSPs. Therefore, there is a need to prescribe time-bound surrender process. There should also be provision of deemed approval of surrender application after a certain period of few weeks. Additionally, once a POI surrender notice is issued, interconnection-related charges should cease upon expiry of the notice period of 4 weeks. Any costs arising from delays in discontinuing the POI thereafter should rest solely with the party responsible for the delay

and should not be passed on to the other operator. We request TRAI to regulate the timelines and cost for exiting or surrender of a POI/ports.

We also request TRAI to mandate nil BG to be demanded by Interconnection provider from Interconnection seeker for any charges related to interconnection, after two years of initial interconnection, as providing and maintaining the BGs blocks the working capital, increases the costs for TSPs (commission, renewal charges, margin money) and also tilt the negotiation power with the BG holder(s) as they can invoke the BG encashment even for a legitimate dispute being raised by other TSP, without going into the rationale of the dispute

Q.11 In order to safeguard the interest of TSPs arising due to financial obligations of interconnection, is there a requirement for furnishing bank guarantee by one TSP to the other TSP? If yes, please provide the process and methodology for determining the initial bank guarantee amount and any subsequent bank guarantee amount, if required. Kindly justify your response.

Response:

Since PSU operator's terms are one sided, non-reciprocal higher interest rates on delayed payments by private operators, while paying no interest on their own outstanding dues. TRAI should mandate symmetric commercial terms across all operators – including the PSU operator – to ensure a level playing field, thereby recognizing reciprocity as a foundational principle for interconnection agreements.

Q.12 Should a procedure be established for addressing delays in the payment of interconnection-related charges? If yes, what should be the procedure to address such delays? Kindly provide your response with justification.

Response:

There is a need for an establishing standardized procedure for resolving delays in interconnection charge payments, building on existing penal interest provisions in interconnect agreements. Without such uniformity, regulatory and commercial disputes proliferate, undermining financial discipline and inter-operator harmony. Timely IUC settlement is critical for sector stability, ensuring equitable treatment across TSPs and preventing uneven enforcement that distorts competition.

Q.13 Is there a need to revise the financial disincentive framework as provided in these regulations. If yes, what specific changes should be done? Kindly justify your response.

Response:

- 1 It is also pertinent to highlight that, under the current ecosystem, interconnection-related non-compliance is largely attributable to a single operator, while no such issues are

observed among the remaining service providers. Therefore, the focus should be on ensuring strict enforcement of the existing Regulations rather than introducing additional or harsher financial disincentives, which may lead to unnecessary regulatory burden without addressing the core issue

While we continue to hold a principled reservation regarding the use of financial disincentives in a mature and well-regulated telecom environment, **it is acknowledged that the regulatory framework must remain effective and facilitative to ensure that service providers adhere to mandated timelines and obligations.**

- 2 For ensuring smooth and timely migration to LSA based POIs and IP interconnection, financial disincentive should be there to enforce inter-operator rights and obligations. It should not be imposed in case of any administrative reporting towards TRAI.

Q. 14 Is there a need to revise the existing SMS termination charge? If yes, what are the considerations necessitating such a revision? If not, kindly provide justification.

Response:

Q.15 Is there a need to prescribe SMS carriage charges when an NLDO carries SMS between the LSAs? If yes, what principles and methodology should apply? If not, kindly provide justification.

Response:

- 1 Yes, SMS carriage is an important activity performed by NLDOs, and we concur with the Authority that the extant framework already provides sufficient flexibility to NLDOs to charge for carriage of SMS. A regulated SMS carriage charge will provide an effective and competitive market mechanism. We recommend a SMS carriage charge of Rs 0.01/sms should be prescribed, which can be levied by TSPs on mutual agreement basis.

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A.3 Intelligent Network Services in Multi-Operator and Multi-Network Scenario Regulations, 2006

Q.16 Is there a need to revise the existing access charge to be paid by the service provider to the originating provider for IN services? If yes, kindly provide detailed explanation; if not, kindly provide justification.

And

Q.17 Are there any difficulties that service providers encounter in complying with existing IN Regulations, 2006 in Multi-Operator and Multi-Network Scenario? Kindly describe these

challenges in detail and suggest possible regulatory remedial measures to overcome these challenges.

Response:

- 1 Yes, there is a need to revise the existing access charge to be paid by the service provider to the originating provider for IN services.
- 2 The inter-operator charges for IN services were agreed between TSPs almost two decades back. The IUC for voice has fallen and became zero in between TSPs. However, the IN charges has seen no revision or reduction for a long time.
- 3 Voice market is very much dynamic and looking at current trends it is relevant to bring competitiveness in the market but is hindered by very high charges of Rs 0.52/min for tollfree IN calls. Reducing these charges will also help give more competitive offerings to the enterprise consumers, and also expand the market of tollfree IN services.
- 4 The inter-operator charges for IN service becomes more about revenue to an originating TSP. If inter-operator charges for tollfree IN services are regulated and should be substantial to present a fair market opportunity for all service providers dealing in providing tollfree IN service numbers to the enterprise consumers.
- 5 Therefore, it is important that access charges for IN services are prescribed and reduced considerably considering the present times.
- 6 Except the charges as mentioned above, the current framework is working fine and without any challenges in agreement execution, routing or completion of calls. As such, there is no need of any other regulatory remedial measures to be taken.
- 7 We submit that this Regulation has been instrumental in enabling IN service interconnection on a reciprocal charge basis and continues to function effectively. No issues are currently observed, nor are any anticipated.

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Although the said regulations prescribe an IN-interconnect charge of ₹0.52/minute, PSU operators continue to levy ₹0.78/call/MOU for traffic originating from private operators. This creates an unfair, non-reciprocal charging regime and results in an unjustified financial burden on private operators. To ensure parity and compliance with the regulatory intent, all IN interconnect charges should be strictly reciprocal across all operators, including PSU operators.

This creates an unfair, non-reciprocal charging regime and imposes an unjustified financial burden on private operators.

To address this imbalance:

- **IN interconnect charges should be strictly reciprocal** across all operators, including PSU operators, to ensure parity and compliance with the principle of non-discrimination.
- The Authority should **issue clear directions** to enforce uniformity and prevent arbitrary charging practices that distort competition.

These measures will promote fairness, reduce disputes, and align the charging framework with the original intent of the IN Regulations.

Q.18 Is there a need to revise the Telecom Regulatory Authority of India (Transit Charges for Bharat Sanchar Nigam Limited's Cell One Terminating Traffic) Regulation, 2005? Kindly provide your response with justification.

Response:

This Regulation was introduced pursuant to an order of the Hon'ble Telecom Disputes Settlement and Appellate Tribunal (TDSAT) to prevent the imposition of an unlawful transit charge by BSNL for routing calls to CellOne subscribers, The Regulation will naturally become redundant once the industry transitions to LSA-level POIs, where all P2P traffic will be exchanged on a no-cost basis between interconnecting parties.

Q.19 The existing interconnection regulatory framework provides for application of origination, carriage, transit, transit carriage and termination charges for various levels of interconnections for PSTN-PSTN, PLMN-PLMN, PLMN-PSTN. Based on the interconnection regulatory framework suggested in your response in Questions 1, 2 and 3 above, should there be a review of these charges? Kindly justify your response.

Response:

1.

Q.20 For termination of emergency calls/SMSs from one TSP's network to another TSP's network, should there be a provision of any additional charges other than applicable IUC? If so, what should be the charges and the basis thereof?

Response:

1. 1. We submit that emergency call and SMS handling is a core public safety obligation, and it must not be treated as a revenue stream by any service provider. The Regulation should explicitly require that emergency services remain entirely free of charge—both in terms of annual fees and per-call payments.
- 2.
3. Even though emergency services are provided to customers free of charge, and despite the regulatory mandate for universal access, the PSU operator continues to levy excessive charges on private operators, both lump sum and per-call. These charges have escalated significantly over time, with no clear cost basis or regulatory approval. This creates a disproportionate financial burden on private operators and is inconsistent with the policy objective of accessible and equitable emergency services for all.
- 4.
5. At present, BSNL imposes yearly lump-sum fees for managing emergency traffic, with an automatic 10% escalation each year, even though the call volume has fallen by almost half after the shift to PSAP-based routing. As this volume is expected to decline further, these charges place an unwarranted and substantial cost burden on TSPs for delivering a statutory public service.
- 6.

We therefore urge the Authority to discontinue such charges through a clear regulatory directive. there should be no provision for any additional charges beyond the applicable Interconnection Usage Charges (IUC) for the termination of emergency calls or SMS between operators' networks. Emergency communication is a critical public service, and imposing extra charges would create unnecessary financial barriers and operational complexity.

Q.21 Should the International Termination Charges (ITC) for international incoming calls to India be revised? If yes, what are the considerations necessitating such a revision. Kindly provide your response with justification.

Response:

1. The matter of revising ITC for incoming international voice traffic remains an unresolved but essential issue that requires urgent attention from the Authority. We once again emphasize that the current ITC band of **Rs 0.35–Rs 0.65 per minute**, introduced through the 16th Amendment to the IUC Regulations (7 April 2020), needs a fresh review. The ceiling should be increased immediately to at least ₹4–₹5 per minute to partially bridge the gap between Indian and global rates.
2. The present range is inadequate and does not reflect the prevailing global cost realities. There is a strong case for substantially increasing the International Long Distance (ILD) termination rate. India continues to have some of the lowest ITC rates worldwide, despite the fact that termination charges paid to several smaller nations, including those in the Middle East, are considerably higher. This imbalance shows that cost parity is lacking.
3. An additional factor that merits attention is that settlements for incoming and outgoing ILD voice traffic are conducted in U.S. dollars. With the Indian rupee depreciating consistently over recent years, the effective cost of outbound international termination for Indian operators has risen sharply. However, increasing ISD tariffs for domestic customers (who pay in INR) is not feasible due to limited price elasticity—largely because Over-The-Top applications/services (OTT) applications are already eroding traditional telephony revenues. The only viable corrective mechanism, therefore, is to raise ITC payable by foreign operators for terminating calls into India.
 - Access Service provider are offering discriminatory rate of ITC (international termination charge) between its own associated ILDO and standalone ILDOs. There is a need to ensure parity between Stand-alone ILDOs and integrated operators to ensure level playing field.

Q.22 Is there a need to address the issue of telemarketing and robo-calls within the interconnection framework? If yes, kindly provide your inputs on the possible approaches. Kindly justify your response.

Response:

Q.23 Is there a need to revise 'The Telecommunication Interconnection (Reference Interconnect Offer) Regulation, 2002'? If yes, kindly provide the specific revisions. Kindly provide your response with justification.

Response:

Q. 24 For the purpose of interconnection, is there a need to revise the current categories of 'Services' and 'Activities' to determine Significant Market Power (SMP)? Kindly provide your response with justification.

Response:

Q. 25 Should the publication of Reference Interconnect Offers (RIOs) on the websites of Telecom Service Providers (TSPs) be mandated? Kindly justify your response. ``

Response:

We are of the view that mandating publication of RIOs on TSP websites is unnecessary. The industry already operates with standardized interconnection agreements based on reciprocity, and these terms are uniformly extended to all operators. Additionally, every such agreement is required to be filed with TRAI, enabling the Authority to independently assess compliance with reciprocity and non-discriminatory principles. In this context, publicly publishing RIOs serves no meaningful purpose and the requirement may therefore be withdrawn.

Q. 26 Should there be any interconnection charges? If yes, kindly provide details about the following:

- a. the types of infrastructure charges to be levied,**
- b. the guiding principles for determining such charges along with ceiling, if required, and**
- c. determination of time-based escalation methodology, if required. Kindly provide your response with justification.**

Response:

Q.27 Whether following sections of The Telecommunication Interconnection (Charges and Revenue Sharing) Regulations, 2001:

- a) Section IV which contains 'Revenue Sharing Arrangements' i.e. interconnection usage charges.**
- b) Schedule I and II which contains rates of interconnection usage charges.**

still hold relevance, in view of the subsequent issuance of the Regulation 4 under Section IV which specifies rates of 'Interconnection Usage Charges (IUC) under 'The Telecommunication Interconnection Usage Charges Regulations, 2003'. Additionally, is there an alternative way to organize these two regulations to enhance clarity and ease of understanding? Kindly provide your response with justification.

Response:

1. We observe that the functional portions of the Telecommunication Interconnection (Charges and Revenue Sharing) Regulations, 2001 have already been superseded by the subsequent Telecommunication Interconnection Usage Charges Regulations, 2003 as well as the Telecommunication Interconnection Regulations, 2018. Consequently, the 2001 framework, including Sections IV and the associated Schedules on IUC rates, no longer serves any practical purpose and may appropriately be withdrawn.
2. Should the Authority consider it necessary to retain certain foundational principles from the 2001 Regulation, such as cost-oriented charging, assessment of incremental or additional cost, non-discriminatory treatment among TSPs, and prohibition of charges for services not requested, these elements can be incorporated within the existing TIR 2018. This would ensure continuity of relevant principles while consolidating all operative provisions under a single, updated regulatory framework.

Q.28 Is there a need for change, if any, required in respect of following:

Port Technology

Port Size (Capacity)

Port Charges

Any other related aspect Kindly provide a detailed response with justification.

Response:

1. We believe there is a strong and immediate need to update the Telecommunication Interconnection (Port Charges) Regulations with uniform charges irrespective of technology of interconnection (TDM / IP) or type of services (fixed line / mobile / NLD / ILD), to align them with the present-day industry environment. Currently, port charges are governed by the Telecommunication Interconnection (Port Charges) (Second Amendment) Regulations, 2012.
2. Currently applicable E1 port charges were established more than a decade ago, based on the cost structures and technologies prevalent at that time. Since then, the sector has undergone substantial transformation, marked by large-scale adoption of IP technology, increased traffic volumes, and significant economies of scale. As a result, the actual cost of provisioning ports has dropped considerably, rendering the existing charges outdated and misaligned with today's realities.
3. With TAX switches becoming largely obsolete due to IP migration and higher levels of interconnectivity among operators, it is appropriate to revisit, and substantially reduce, legacy charges such as port levies. This issue is further compounded by the amendment to the Telecommunication Interconnection Regulations, 2018 (dated 5 July 2018), which added the following proviso:

“Provided that the port charges and infrastructure charges, for all ports provided before the 1st February, 2018, shall continue to be payable as per the terms and conditions which were applicable to them before the 1st February, 2018.”

4. This proviso effectively entrenches unilateral and outdated charging practices that BSNL/MTNL have historically imposed. Allowing such terms to persist undermines transparency, fairness, and reciprocity in interconnection arrangements. Any revised port charges issued by the Authority should apply uniformly to all ports, regardless of the date of provisioning, and this proviso should therefore be removed.
5. Given the significant technological convergence, evolution of traffic patterns, shift in consumer behaviour, and the broader regulatory movement toward a bill-and-keep framework, the continued retention of obsolete regulatory constructs serves no useful purpose. Eliminating such legacy provisions must be an important regulatory priority.
6. In view of these developments, we request the Authority to re-evaluate and revise the E1 port charges notified under the 2012 Amendment and to additionally prescribe IP port charges to support the industry’s transition toward full IP-based interconnection.
7. Accordingly, we submit the following:
 - a. Port charges require comprehensive review and significant reduction, which should be based on efficient and present technology i.e. on the basis of IP interconnection costs. Fixing of a uniform Port charges i.e. for both TDM and IP ports, based on the IP interconnection costs, would encourage faster migration to the IP interconnection..
 - b. Any revisions must apply to all existing operational ports without exception.
 - c. The port-charge-related proviso in the 2018 Interconnection Regulations should be withdrawn.
 - d. BSNL/MTNL should be required to fully comply with the 2018 Interconnection
 - e. Regulations and bear the cost of their own ports post-bifurcation.
 - f. BSNL/MTNL must be restrained from levying arbitrary or unjustified charges.

Q.29 Should port charges be uniform across all services and technologies? Kindly provide detailed response for the following categories specifically:

- a. Fixed Line Service/ Mobile Service/ NLD service/ ILD service, and
- b. E1 (TDM) based interconnection and IP based interconnection.

In case non-uniform charges are suggested, what methodology should be followed for calculation of port charges for above mentioned categories of services and technologies. Kindly provide a detailed response with justification.

Response:

Q.30 Whether use of ‘Erlang’ as a unit of traffic in various interconnection regulations is sufficient and are the current procedures for demand estimation as provided in the

Telecommunication Interconnection (Port Charges) Regulation 2001 and the TIR 2018 still effective and practical, in view of adoption of IP based interconnection? If yes, kindly provide justification in support of your response. If no, kindly provide alternate metrics and demand estimation methods for IP-based interconnection along with detailed explanation

Response:

No, the use of 'Erlang' as a unit of traffic in interconnection regulations is no longer sufficient, and the current demand estimation procedures under the *Telecommunication Interconnection (Port Charges) Regulation, 2001* and *TIR 2018* are outdated in the context of IP-based interconnection.

- a. Limitations of Erlang-Based Estimation: Erlang-based models were designed for circuit-switched networks and do not accurately represent traffic patterns in packet-switched IP environments. They fail to capture dynamic bandwidth utilization and flow characteristics inherent in modern networks.
- b. Recommended Approach: Instead of Erlang, throughput and flow-based metrics should be adopted for IP-based interconnection. These metrics provide a more accurate reflection of real-time traffic and capacity requirements.

During the migration phase, a hybrid approach combining Erlang for legacy TDM traffic and throughput-based metrics for IP traffic can be implemented to ensure smooth transition.

Q.31 In either case, kindly provide suitable diagrammatic representation. Should the current provisions for submission, inspection and getting copies of interconnection agreements under 'The Register of Interconnect Agreements Regulations, 1999' using floppy disks and print copies be dispensed with and be made online? If yes, what changes do you suggest for the online process, timelines, related charges and any other aspect? If not, kindly provide justification.

Response:

While the submission of Interconnect Agreements remains necessary, the process of submission of 2 printed copies interconnect agreements itself can be fully **digitized**. Instead of physical filings, these agreements can be **uploaded directly to a TRAI-managed online portal**, eliminating the need for hard-copy submissions.

TRAI has already moved significantly toward a **paperless compliance ecosystem**, with multiple reports, filings and correspondences now accepted in electronic form. Extending this digital approach to the submission of Interconnect Agreements would further strengthen environmentally responsible practices.

In view of the above, it is proposed that the existing provisions be suitably amended to **discontinue paper-based submissions** and enable TSPs to meet all related compliance requirements through **online submission mechanisms**. . Also, as the interconnect agreement is executed under the TIR 2018, this regulation can be subsumed into the TIR, to make a simpler unified interconnection framework.

Q. 32 Is there a need to incorporate provisions for financial disincentives in interconnection regulations to deter non-compliance? If yes, kindly provide specific scenarios and mention the concerned regulations, where financial disincentives would be applicable, along with their quantification. Kindly justify your response.

Response:

Yes, there is need of having financial disincentives in interconnection regulations to deter non-compliance. The FD should be imposed in cases where inter-TSP rights and obligations under the provisions of Regulations are to be enforced. It should not be prescribed for administrative reporting to the TRAI.

Q.33 What should be the mechanism and timelines for transition of existing interconnection agreements between the service providers to the new regulatory framework that will emerge from this consultation process?

Kindly provide detailed response with justification.

Response:

The mechanism and timelines for transitioning existing interconnection agreements to the new regulatory framework emerging from this consultation should be finalized in close consultation with operators and industry stakeholders.

This approach will:

- Ensure practical and achievable timelines that reflect operational realities.
- Minimize disruption to ongoing services while enabling a smooth migration.
- Promote industry-wide consensus on processes, reducing disputes and compliance challenges.

The Authority should:

- Define a phased migration plan with clear milestones.
- Provide guidelines for harmonizing legacy agreements with the new framework.
- Incorporate digital tools for submission and tracking to streamline the transition process.

Q.34 What should be the interconnection framework for satellite-based telecommunications networks with other telecom networks? Further, whether the interconnection frameworks for Mobile Satellite Service (MSS) and Fixed Satellite Service (FSS) satellite-based telecommunications networks should be distinct? Please provide your response along with end-to-end diagrammatic representation and justification in respect of the following: Satellite - Satellite network interconnection Satellite - PLMN interconnection Satellite - PSTN interconnection

Response:

There is **no need to create a separate interconnection framework** for satellite-based networks as **satellite-based communication services** will be provided by service providers

only under the **Access Services authorization**. These providers should obtain interconnection with other telecom networks, including PLMN and PSTN, **under the existing interconnection regime** applicable to all access service providers