



Dated: 14-12-2025

IAFI/2025-26/L-405

To,

**Shri Sameer Gupta,
The Advisor (Networks, Spectrum & Licensing)
Telecom Regulatory Authority of India (TRAI),
4th, 5th, 6th & 7th Floor, Tower-F,
World Trade Centre, Nauroji Nagar,
New Delhi – 110029**

Ref: Review of existing TRAI Regulations on Interconnection matters

Subject: Submission of Comments/Suggestions by the ITU-APT Foundation of India (IAFI) on the TRAI Consultation Paper regarding "Review of existing TRAI Regulations on Interconnection matters," released on November 10, 2025.

Dear Sir,

The ITU-APT Foundation of India (IAFI) sincerely thanks and appreciates the Telecom Regulatory Authority of India (TRAI) for releasing the comprehensive Consultation Paper dated November 10, 2025, on the 'Review of existing TRAI Regulations on Interconnection matters,' and for providing stakeholders the opportunity to submit their views.

IAFI fully supports the TRAI's objective of modernizing the regulatory framework to align with the rapid technological advancements and structural changes in the Indian telecommunications sector, particularly the deployment of 4G, 5G, and emerging platforms.

In response to the Consultation Paper, IAFI is hereby submitting its detailed comments and specific recommendations. These views are considered crucial for establishing a robust, technology-neutral regulatory architecture for Interconnection Matters. IAFI specifically urges the TRAI to prioritize the following key areas in the revised framework.

- a. IAFI urge TRAI for Establishment of an LSA-based Interconnection Framework, for License Service Area (LSA)-based interconnection to accelerate the implementation of the Authority's recommendations.

- b. The principle of "Fair, Reasonable, Reciprocal, and Non-Discriminatory" must be explicitly adopted as the governing standard for all interconnection agreements.
- c. The interconnect framework must be based on cost-based charging, ensuring reciprocity in Agreements and offering fair and equal terms for all operators.
- d. TRAI should undertake a comprehensive review of termination charges for international incoming calls, with the aim of suitably increasing it to align with international benchmarks.
- e. Access to the Register of Interconnect Agreements, or copies of specific pages, should be provisioned through a comprehensive, end-to-end digitized process. Furthermore, the associated access fees should be reviewed and realigned to reflect the efficiency of the new digital system.

IAFI request you to kindly consider our comments and suggestions during the finalization of the recommendations. The IAFI would also be pleased to participate in any Open House Discussion or meeting, should TRAI deem it necessary for further clarification on our submission.

We look forward to collaborating with the TRAI and remain available for any further discussions that may be required.

Warm Regards,

Bharat B Bhatia,

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ITU-APT Foundation of India (IAFI)

**IAFI Comments/Suggestions on the Consultation Paper of TRAI regarding
“Review of existing TRAI Regulations on Interconnection matters”**

Q-1. For PSTN to PSTN, PLMN to PSTN and PSTN to PLMN, should the interconnection level be specified at LSA level? If yes, should the existing POIs at the LDCA/SDCA level also be migrated to the LSA level? Kindly justify your response.

The provided regulations do not mandate that the interconnection level be specified at the LSA (Licensed Service Area) level, nor do they mandate the migration of existing SDCC POIs.

IAFI Response:

The existing Regulation is currently limited only to PSTN to PSTN and PSTN to NLD Network calls. To ensure regulatory clarity and comprehensive coverage for all common interconnection scenarios, the principles established for PSTN-PSTN (i.e., mutual agreement with a defined fallback level) would need to be extended to the other three categories (PLMN-PSTN, PSTN-PLMN, and PLMN-PLMN).

To fully cover the scope of all interconnection types mentioned in Q1 and Q2, Regulation 9A must be amended to define the level of interconnection for PLMN to PSTN, PSTN to PLMN, and PLMN to PLMN calls. There are more than 2600 SDCA, 300 LDCA and 22 LSA in India.

IAFI is of the view that interconnection level should be specified at the LSA (Licensed Service Area) level, and the existing POIs at the LDCA/SDCA level should be migrated over a phased approach. Main reason are:

- i. The telecom sector is transitioning from legacy E1/TDM-based PSTN networks with hierarchical switching levels (SDCA/LDCA) to IP-based packet-switched core networks.
- ii. Modern network architectures allow a single IP core to efficiently handle traffic for an entire LSA, making the LDCA/SDCA-based structure technologically obsolete and

less efficient.

- iii. Stakeholders support this view, citing the need to deploy Next Generation Networks.
- iv. Interconnection for wireless services (PLMN) is already done at the LSA level. Aligning fixed wireline (PSTN) interconnection to the LSA level would create a consistent and uniform regulatory framework.
- v. TRAI's own recommendations on the National Numbering Plan support this change to facilitate smoother transitions to modern, centralized network architectures. The recommendations suggest shifting POIs from the LDCA level to the LSA level for smoother transition.
- vi. Migration to LSA-based IP interconnection would ensure seamless connectivity, enhanced Quality of Service (QoS), and facilitate the adoption of advanced codecs for improved voice quality (e.g., VoLTE-to-VoLTE calls). 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.
- vii. Modern IP routing capabilities and the evolution toward unified numbering, FLRN-based (Fixed-Location Routing Number) frameworks, and fixed-mobile convergence (FMC) support the emergence of centralized interconnection models. The regulatory baseline of LSA-level POIs should therefore coexist with the flexibility for operators to establish **national-level or pan-India POIs through mutual agreement**, where technically and commercially feasible. Such centralized POIs reduce infrastructure duplication, enhance routing efficiency, and support next-generation interconnection models similar to those implemented in advanced IP networks globally

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.

IAFI Response:

Interconnection may be allowed at a level other than LSA based on mutual agreement, provided that the LSA level is established as the default/mandated level.

- i. The existing regulations already allow the location of POI for PSTN-to-

PSTN calls to be at a place mutually agreed upon if the parties fail to agree on LDCC. This principle of mutual agreement provides necessary flexibility for TSPs to design network connectivity based on specific traffic flows, geographic needs, or specialized service requirements.

- ii. BSNL (PSU) opposed mandatory migration to a single point (LSA), arguing that it has made huge CAPEX/OPEX investments at the SDCA/LDCA levels. Allowing mutual agreement for alternative levels could provide a mechanism for such operators to negotiate arrangements that protect existing, non-depreciated infrastructure or allow for a slower, negotiated migration path.
- iii. While mutual agreement offers flexibility, the paper clearly signals the LSA level as the technologically preferred and consistent default/mandated level for future-ready networks. Mutual agreement should function as an exception to this default, allowing deviation only when both parties consent.
- iv. Interconnection for PSTN–PSTN, PLMN–PSTN, PSTN–PLMN and PLMN–PLMN should also be permitted at the **National Level**, in addition to the standard LSA-level framework, based on mutual agreement between operators. Modern IP-based architectures enable efficient centralized routing, making national-level POIs technically feasible, scalable and far more efficient than maintaining multiple distributed interconnection points. National-level interconnection will significantly reduce infrastructure duplication, streamline network operations, and simplify POI establishment and augmentation by eliminating repeated ATP cycles and circle-wise procedural variations.
- v. Further, a national-level POI structure supports the sector's transition toward unified numbering, FLRN-based frameworks and fixed–mobile convergence, and is consistent with global best practices where operators interconnect through centralized IP gateways. Allowing national-level interconnection through mutual consent will also improve network resilience, reduce latency in traffic management, enable faster provisioning, and lower operational overheads arising from legacy LDCA/SDCA or multi-LSA routing constraints. Therefore, alongside LSA-level interconnection as the regulatory baseline, enabling national-level POIs by mutual agreement is essential to create a modern, simplified and future-ready interconnection regime.

- vi. BSNL continue to insist on establishing interconnection at the SDCC or LDCC level, even where traffic volumes are minimal, or provisioning is technically unviable. This outdated approach increases deployment costs and deters service providers from launching fixed-line offerings in smaller geographies.

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.

IAFI Response:

IAFI suggest the following changes.

In the Telecommunication Interconnection Regulations (TIR), 2018:

- i. Change in Regulation 9A - The default level of interconnection for PSTN-to-PSTN, PLMN-to-PSTN, and PSTN-to-PLMN traffic should be explicitly specified as the LSA (Licensed Service Area) level, replacing the current focus on LDCC/SDCC.
- ii. the framework must also explicitly allow interconnecting operators to establish **National-Level or Multi-LSA POIs**, provided such arrangements are mutually agreed.
- iii. Mandate Phased IP Migration - A new provision should be introduced to mandate that all new POI requests and augmentation requests must be based on IP-based connectivity at the LSA level. It should also prescribe a phased migration timeline for existing LDCA/SDCA POIs (which are often TDM-based) to be converted or closed, potentially offering financial disincentives for non-compliance with the migration roadmap.

- iv. the regulations should incorporate a default mechanism for situations where mutual agreement is not reached. In such cases, the POI should be located at the **State Capital**, or in LSAs covering multiple States, at the **largest city** within the LSA.
- v. Retain Mutual Agreement Clause (with Priority) - Retain a clause allowing for interconnection at a level other than LSA, provided it is mutually agreed upon by the service providers. However, this clause should clarify that the LSA level remains the default, efficient, and preferred standard.

In the Reference Interconnect Offer (RIO) Guidelines:

- i. Revision of Tables 1.1, 1.2, 2.1, and 2.2 – These tables specifies POI designations for outgoing/incoming traffic (PSTN-to-PSTN, PLMN-to-PSTN, and vice versa) must be comprehensively updated to reflect the LSA level as the primary and default point of traffic handover for local and intra-circle communications.
- ii. Inclusion of IP-Centric Parameters - The RIO Guidelines should be updated to include technical and commercial terms specific to IP-based interconnection, such as:
 - a. Signalling protocols (e.g., SIP, Diameter).
 - b. Capacity management and Quality of Service (QoS) guarantees in an IP environment.
 - c. Technical standards for handing over traffic for advanced services like VoLTE.

IAFI is of the opinion that these changes are necessary because the existing regulations and guidelines are fundamentally tied to the E1/TDM-based hierarchical network architecture (SDCA/LDCA). To realize the benefits of technological advancements (IP-core, NGN, 4G/5G), and to achieve regulatory consistency across fixed and mobile services, the foundational documentation (TIR 2018 and RIO Guidelines) must be revised to establish the LSA level and IP-based connectivity as the new standard for interconnection.

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:

- i. PSTN-PSTN interconnection,
- ii. PLMN-PLMN interconnection, and
- iii. PLMN-PSTN interconnection?

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

IAFI Response:

No, there is no need to mandate multi-path resiliency and redundancy in the PoI framework to mitigate link failure at the primary PoI in the case of PSTN-PSTN interconnection, PLMN-PLMN interconnection, and PLMN-PSTN interconnection.

IAFI believe that the Multi-path resiliency will inherently strengthen as interconnection shifts to higher aggregation levels. For example, adopting four regional IP interconnect POPs—with each location equipped with primary and secondary media paths—naturally introduces redundancy similar to data-network interconnect models.

All off-net outgoing traffic should be delivered to the terminating operator at its nearest IP POP. If the nearest path becomes unavailable, traffic can seamlessly be rerouted through any of the remaining three POPs, ensuring continuity of service.

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.

IAFI 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.

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

interconnection to IP-based interconnection within a specified period?
If yes, suggest timelines. Kindly justify your response.

IAFI Response:

IAFI is of the view that IP-based interconnection should be mandated for new interconnections in the regulatory framework. Mandating IP-based interconnection for new POIs aligns with the global technological shift and offers numerous advantages:

- i. Technological Shift - The global and Indian telecom sector is undergoing a transition from legacy circuit-switched networks (TDM/E1) to modern IP-based frameworks.
- ii. Enhanced Capabilities - IP-based interconnection supports a diverse range of communication services beyond traditional voice, including VoIP, video conferencing, and rich communication services.
- iii. Operational Benefits - It provides higher network efficiency due to packet switching, greater scalability, enhanced flexibility, and lower operational costs for service providers.
- iv. Future Readiness - IP-based networks are capable of faster deployment of new services and innovations, which is essential for the transition to 5G and beyond.
- v. Stakeholder Support - A majority of stakeholders who submitted views during pre-consultation supported the subject of migration to IP-based interconnection.
- vi. The TRAI 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.

Regarding Q-6 (b):

IAFI Response:

TSPs should be mandated to migrate existing TDM based E1 interconnection to IP-based interconnection within a specified period. Mandating the migration is necessary to resolve the inefficiencies and disparities created by the current dual-network structure:

- i. Inefficiency of Legacy Systems - Existing TDM/E1 systems are seen as inefficient and inadequate for supporting modern converged, multi-service networks. They are limited

by fixed bandwidth allocation and lack the flexibility needed for the dynamic nature of IP traffic.

- ii. Complex and Expensive Operations - Running both legacy and IP-based systems in parallel makes operations more complex and expensive, slowing down innovation and potentially degrading service quality.
- iii. Interoperability Issues - The "dual structure" (TDM and IP) leads to interoperability issues, degraded call quality (especially for VoLTE-to-VoLTE or video calls across networks), and inefficient capacity utilization.
- iv. Disparity in Adoption: There is a clear dichotomy where intra-operator (internal) traffic has largely transitioned to IP, but inter-operator (between different TSPs) traffic continues to rely heavily on E1 circuits. This divergence necessitates regulatory intervention to harmonize network efficiencies.
- v. Stakeholder Recommendation – Stakeholder have supported the migration and emphasize the need for clear timelines along with a regulatory framework to facilitate the transition.

Specific timelines should be finalized with due consultation with stakeholders, considering the balanced approach, acknowledging the need for capital expenditure and technical challenges.

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:

- i. Seeking of ports at POIs,
- ii. Request for initial provisioning of ports, and
- iii. Request for augmentation of POIs?

Kindly provide your response with justification.

IAFI Response:

The existing framework is functioning effectively among all private operators. The only exception is BSNL. The need for modifications to the existing interconnection framework arises due to the following three main primary concerns.

First - the issue refers to a situation where a service provider, particularly a new or smaller operator, is stuck in a continuous state of requesting (seeking) interconnection from a dominant or incumbent operator, often due to deliberate delays or non-cooperation by the latter. Similarly, some stakeholders argue that the principle of reciprocal interconnection

terms is not uniformly followed, and certain providers are unfairly kept in a disadvantaged "seeker" status long after initial arrangements, leading to non-uniform cost-sharing and potential discrimination.

Second - the lack of Clarity and Commercial Fairness in Agreements, where some operators allegedly refuse to sign formal interconnection agreements, insisting on dictated terms, which undermines mutual agreement and calls for a re-examination of the seeker-provider framework to ensure time-bound obligations and commercial fairness; and

Third - the Changing Market Dynamics and Operational Reality, including rising traffic volumes and the migration to IP-based networks, which necessitates a more agile, responsive framework with possibly modified timelines and compliance mechanisms to enhance efficiency and address operational bottlenecks for a resilient future-ready interconnection regime.

We submit that, rather than altering the prescribed timelines, the priority should be to ensure BSNL's full compliance with the current regulatory provisions.

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.

IAFI Response:

Challenges Faced by TSPs:

The primary challenge is the delay in provisioning Points of Interconnection (POIs), particularly by certain incumbent TSPs.

1. Delay in POI Commissioning - POIs are often not commissioned within the mandated 42 days from the receipt of a complete request, despite the clear timelines prescribed under 'The Telecommunication Interconnection Regulations, 2018'.
2. Disproportionate Impact - Delays in POI provisioning by a specific incumbent TSP (due to its extensive network and legacy base) create a disproportionate impact on other operators, who cannot commence or expand services without the necessary interconnection.

3. Artificial Bottleneck - These delays create an "artificial bottleneck" that disrupts the timely rollout of telecom services, hampers network expansion plans, and erodes the overall efficiency of the sector.
4. Ineffective Framework against Anti-Competitive Practices - The existing regulatory framework may not be sufficient to prevent anti-competitive practices, such as a dominant operator deliberately delaying interconnection agreements.
5. Legacy Procedures -For incumbent TSPs, the process of establishing POIs and subsequent capacity augmentation takes much longer (sometimes several months) due to legacy procedures being followed for multiple acceptance test procedures required for different types of traffic.

Possible Remedies and Suggestions:

IAFI proposed several measures to address the challenges and ensure adherence to the prescribed timelines:

1. Stricter Accountability and Monitoring

Stricter accountability measures and deterrent mechanisms to deal with non-compliance with the 42-day timeline should be introduced. Similarly, a reporting system to monitor the status of all interconnection requests should be introduced and compliance reports of TSPs should be published to ensure transparency and accountability.

2. Regulatory and Procedural Reform

Existing regulatory framework (including the TIR 2018, RIO 2002, and Charges and Revenue Sharing 2001 Regulations) should be reviewed, to enable streamlined dispute resolution processes and ensure a level playing field. Legacy procedures for acceptance testing should be streamlined, to reduce avoidable delays. It should be ensured that strict adherence to prescribed POI commissioning timelines is enforced uniformly across all operators.

3. Dispute Resolution and Best Practices

Dispute resolution mechanism should be strengthened and international best practices should be adopted to ensure a fair and efficient interconnection framework.

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.

IAFI Response:

The existing framework, outlined in 'The Telecommunication Interconnection Regulations, 2018' (TIR 2018), establishes a structured, two-tiered notice system for disconnection.

Disconnection is initiated by a TSP, when the other party contravenes the regulations or agreement, which typically includes non-payment of dues. The initiating TSP must issue a show-cause notice (first notice) of fifteen working days stating the reasons for the proposed disconnection. If the response is unsatisfactory or absent, the initiating TSP must provide a subsequent fifteen working days' notice (second notice) specifying the date of disconnection. This two-tiered system aims to ensure transparency, provide adequate time for dispute resolution, and safeguard interests by minimizing service disruptions.

The major challenge identified by stakeholders is the absence of a clearly defined regulatory framework for the voluntary surrender of POIs.

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.

IAFI Response:

IAFI is of the view that there is immediate need for reassessment, due to the dynamic nature of the telecom sector, the introduction of new technologies, and evolving service requirement.

- i. It has been pointed by many stakeholders, regarding the absence of a clearly defined regulatory framework for the surrender of all or partial ports or the POI itself.
- ii. Surrender of POI is a distinct event from disconnection. Surrender is required in situations such as reduction in traffic between operators, withdrawal of services from certain areas and re-routing of traffic.
- iii. A formal exit or surrender process should be clearly articulated within the regulatory framework.

- iv. The surrender of POIs should remain a regulated process for as long as SDCA-level POIs continue to exist. A reasonable notice period, preferably 15 to 30 days, should be provided to allow the other operator sufficient time to reroute or shift its traffic.
- v. Additionally, once a POI surrender notice is issued, interconnection-related charges should cease upon expiry of the notice period. 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.

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.

IAFI Response:

No, we do not agree with the provision requiring Bank Guarantees to secure the financial interests of the parties. Interconnection is a license obligation and is already comprehensively governed by the applicable TRAI Regulations. Further, the interconnecting parties are licensed operators with substantial financial commitments and regulatory oversight. In this context, mandating Bank Guarantees to secure interconnection-related payments is unnecessary and redundant. Accordingly, we submit that this requirement may be withdrawn.

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.

IAFI Response:

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.

IAFI Response:

- 1 The existing financial disincentive of Rs 1 lakh per day per Licensed Service Area for violation of the provisions of the Interconnection Regulations is already robust and sufficiently stringent. We do not see any justification for revisiting or enhancing this framework.
- 2 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
- 3 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.
- 4 With respect to delays in the payment of interconnection-related charges, a practical and equitable approach is to allow the invoicing operator to adjust or set off the outstanding dues against amounts payable by it to the defaulting operator. This right of set-off should be explicitly provided for within the regulatory framework, irrespective of specific contractual provisions in the underlying interconnection agreements.

A-2: The Short Message Services (SMS) Termination Charges Regulations, 2013

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.

IAFI Response:

There is no need to revise the existing termination charge for domestic P2P SMS. A dedicated deterrent charge must be introduced to deter spamming in bulk.

- 1 We have highlighted the need for a distinct interconnection framework for A2P traffic, given that the existing interconnection architecture was designed solely for P2P traffic and is not suited to address the scale and nature of A2P communications.
- 2 **A2P messages**, which include promotional, service, and transactional SMS, have emerged as a significantly larger segment compared with P2P messages. Although the *TCCCPR 2018* prescribe charges for such messages, there remains a pressing need for a **deterrent A2P SMS termination charge** to curb unsolicited commercial communication.
- 3 Despite the demonstrated requirement for increasing this deterrent charge, the *Second Amendment to TCCCPR 2018* did not address this issue. We therefore urge the Authority to utilize the current consultation as an opportunity to **revise the A2P SMS termination charge upwards**, in addition to any carriage charges payable to NLDOs for inter-LSA message transport.
- 4 Further, **A2P voice calls** have emerged as an even more significant nuisance for consumers. We request that the Authority prescribe a **deterrent termination charge of** for A2P voice calls. If such a charge is not feasible to implement within the existing framework, the Authority may alternatively consider placing A2P call termination charges under **forbearance**. The success of deterrent A2P SMS termination charges in substantially reducing SMS-based spam demonstrates the effectiveness of such measures, and similar action is necessary to address the growing issue of A2P voice spam.

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.

IAFI Response:

Yes, if an NLDO (National Long-Distance Operator) is required to carry SMS traffic between

LSAs, there is a technical and economic need to prescribe a carriage charge. The need for a charge is based on the core regulatory principle of compensation for service provision, which is emphasized in the provided context regarding termination charges:

1. If an NLDO is mandated to carry traffic across its network, it is performing a necessary function and incurring costs (network infrastructure, maintenance, signaling, transit). Therefore, a charge is necessary to compensate the NLDO for the work done in transporting the message from the originating LSA to the terminating LSA network.
2. Fair Compensation - The interconnection framework is "designed to ensure fair compensation to service providers for delivering messages that originate from other networks." This principle applies not just to termination but to all necessary legs of the interconnection path, including carriage by an NLDO.
3. Prescribing a fair, cost-based carriage charge ensures the NLDO has the incentive to maintain and upgrade the network infrastructure required to efficiently handle SMS transit across the country, aligning with the goal of fostering innovation.
4. However, rather than undertaking detailed cost-based calculations to determine the SMS carriage charge, we request the Authority to prescribe an appropriate ceiling for NLDO carriage of SMS. This ceiling may be fixed at Rs 0.05 per SMS.

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.

IAFI Response:

This Regulation was important at the time it was enacted and facilitated the IN - interconnection basis reciprocal charges. A primary contributing factor to the very low penetration levels observed in IN (Intelligent Network) services is the high cost of service resulting from the current Interconnect Usage Charges (IUC). To enable the provision of competitive and attractive pricing for both Enterprise and SME customers, IAFI proposes that the current IUC rate of 52 paise to be reciprocal in nature. This will significantly boost the adoption of Toll-Free services, which are a

crucial and often mandatory communication solution, particularly within sectors like Banking.

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.

IAFI Response:

The 2006 regulations were designed for a standardized, often SS7-based, IN environment. Integrating various generations and vendor-specific legacy IN platforms with newer IP/IMS/NFV systems is complex and prone to errors. Interconnection currently relies on legacy SS7 protocols. However, as networks transition, operators must manage traffic exchanged between old SS7 signaling and newer IP-based signaling at the interconnection points, may involve protocol interworking challenges.

There is no longer a need for this Regulation to remain standalone; it may be subsumed within the Telecommunication Interconnection Regulations, 2018, or the proposed Interconnection Code, if appropriate.

An additional concern relates to the non-portability of IN numbers. While outside the scope of this consultation, we request that the Authority address this matter separately to enable customers to port IN numbers as required.

A-4: TRAI (Transit Charges for BSNL's Cell One Terminating Traffic) Regulations, 2005

Q-18. Is there a need to revise the TRAI - Transit Charges for Bharat Sanchar Nigam Limited's Cell-One Terminating Traffic Regulation, 2005?
Kindly provide your response with justification.

IAFI Response:

No there is no need to revise the TRAI (**CellOne Charges Regulations**”). This Regulation was introduced pursuant to an order of the Hon’ble TDSAT to prevent the imposition of an

unlawful transit charge by BSNL for routing calls to CellOne subscribers, and therefore does not require reconsideration at this stage. Moreover, the Regulation will 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.

A-5: The Telecommunication Interconnection Usage Charges Regulations, 2003

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.

IAFI Response:

The inter-operator domestic IUC charges for voice-call, both for wireline-to-wireline and mobile-to-mobile, have already moved to BAK (Bill-and Keep) since 01st Jan-2021, and this arrangement is working well. The Telecommunication Interconnection Usage Charges Regulations, 2003 - The main objective of the IUC Regulations was to prescribe a framework for sharing of revenues between originating, transit, and terminating networks in the telecom sector. This framework is intended to ensure inter-operator payments are cost-based, promote competition, and benefit consumers. On international incoming calls from October 1, 2008.

The sole outstanding concern relates to the unreasonable transit charges currently imposed by BSNL. Considering present-day fixed-line traffic dynamics, the continuation of this levy unjustified and outdated.

Additionally, with the proposed shift towards LSA-level and centralized interconnection, each operator will manage the delivery of traffic destined for its own subscribers. In such a setup, transit charges no longer serve any functional purpose and should therefore be discontinued on grounds of fairness and reciprocity. We accordingly urge the Authority to remove the transit charge altogether.

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?

IAFI Response:

No, there should not be any additional charges, and ideally, there should be zero termination charge for emergency calls/SMSs. Emergency services (e.g., 100, 112, 108) are a fundamental public service and a matter of national security and public welfare. The primary objective is to ensure immediate, universal, and unhindered access for the public.

While the IUC framework is cost-based, the cost for terminating an emergency call is typically considered part of the universal service obligation and the License Condition for all Telecom Service Providers (TSPs). Treating it as a normal commercial call would create a financial barrier or disincentive.

The IUC principles mandate non-discriminatory access. **only IUC should apply to emergency calls, and there should be no lump sum fees** for emergency traffic ensures that the TSPs handle the calls based on public interest and not commercial gain, promoting seamless connectivity across all networks regardless of the originating operator's financial status.

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. We therefore urge the Authority to discontinue such charges through a clear regulatory directive.

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.

IAFI Response:

There is a strong case for a review and potential upward revision of the ITC ceiling, based on the principle of cost recovery and the need to address market distortion. The core principle of the IUC regime is that inter-operator payments should be cost-based. The existing range of ₹ 0.35 to ₹ 0.65 per minute may no longer accurately reflect the modern cost of termination,

particularly for calls routed through International Long-Distance Operators (ILDs) on newer, high-quality, IP-based networks.

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 present range is inadequate and does not reflect the prevailing global cost realities. There is a strong case for substantially increasing the 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.

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 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

Shift ILD incoming pulse: ILD networks are also experiencing a significant rise in spam and flash calls. Flash call, triggered automatically and disconnected almost instantly for verification purposes, do not carry a termination charge because they are not answered. They simply appear as missed calls for the recipient.

These near-zero-duration calls are diverting traffic away from conventional voice and SMS channels since they generate no billable minutes. At the same time, they inflate signalling load, creating operational pressure without corresponding revenue. Operators are incurring sizeable monthly losses, estimated in eight figures, due to the widespread use of flash-call verification. This also distorts the ILD SMS ecosystem and adds complexity in managing spam.

We propose that this issue can be effectively mitigated by adopting a **minimum 60-second pulse** for settlement purposes, in place of the existing 1-second pulse. As networks vary in implementation, a uniform, regulator-mandated framework would ensure consistency and compliance across all operators.

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.

IAFI Response:

Yes, there is a clear need to address the issue of telemarketing and robo-calls (Unsolicited Commercial Communication - UCC) within the interconnection framework.

Justification:

- a. Consumer Benefit and Protection: The IUC regime's ultimate goal is to benefit consumers by enabling affordable and efficient access to services. UCC/Robo-calls directly compromise this, causing annoyance, wasting consumer time and resources, and potentially leading to fraud. The interconnection framework must support measures to protect consumers.
- b. Traffic Segregation and Cost Recovery: Telemarketing/A2P (Application-to-Person) traffic is distinct from Person-to-Person (P2P) traffic. Routing high-volume A2P/telemarketing traffic through the same infrastructure as P2P calls without appropriate compensation burdens the terminating network.
- c. Facilitating Control and Security: Addressing this through the interconnection framework would allow the regulatory body to mandate specific technical and commercial requirements to control UCC.

A-6: The Telecommunication Interconnection (Reference Interconnect Offer) Regulations, 2002

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.

IAFI Response:

This Regulation was initially highly significant during the crucial period, when private service providers were first entering the market, addressing vital interconnection issues with the incumbent Government operators. It played an important historical role in fostering greater competition in mobile and basic telephony and ensuring that all Telecom Service Providers (TSPs) achieved necessary access to interconnected networks. However, with the subsequent notification and implementation of the Telecommunication Interconnection Regulations, 2018, which now comprehensively cover all interconnection requirements and establish specific timelines for associated activities, the original Regulation has become redundant and has effectively lost its relevance.

We are of the view that there is no requirement to revise the existing RIO Regulations, considering how the industry and technology have evolved over the past twenty years. These regulations were originally crucial during the early phase of private sector participation, when challenges in securing interconnection with incumbent government operators existed. At that time, the framework played an important role in fostering competition in both mobile and fixed services and ensuring that all operators could obtain fair access to interconnection.

Since the introduction of the Telecommunication Interconnection Regulations, 2018, which comprehensively define interconnection obligations and establish clear timelines for all related processes, the relevance of the 2002 RIO Regulations has effectively diminished. In view of this, the Regulation may appropriately be withdrawn.

Should the Authority consider that certain foundational principles from the 2002 framework continue to hold value, these could be incorporated, at a broad, principles-based level, into the TIR 2018. Such inclusion, limited to fair, reasonable, and non-discriminatory interconnection norms, would suffice. All remaining aspects should be kept flexible and left to bilateral

agreements, consistent with the needs of a mature and highly competitive telecom market such as India's.

Furthermore, the existing provisions under TIR 2018 already provide adequate safeguards for smaller players or new entrants in situations where there may be an imbalance in negotiating power.

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.

IAFI Response:

No there is no need to revise the current categories of 'Services' and 'Activities' to determine Significant Market Power (SMP). Indian telecom sector has undergone significant evolution since the Telecommunication Interconnection (Reference Interconnect Offer) Regulations, 2002 (RIO Regulations) were framed.

Q-25. Should the publication of Reference Interconnect Offers (RIOs) on the websites of Telecom Service Providers (TSPs) be mandated?

Kindly justify your response.

IAFI Response:

No, the publication of RIO should not be mandated .

A-7: The Telecommunication Interconnection (Charges and Revenue Sharing) Regulations, 2001

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.

IAFI Response:

Interconnection involves the use of one TSP's network assets (both passive and active) by another TSP to complete traffic (calls, data exchange, etc.). Compensation for this usage is necessary for the following reasons, as implied by the text:

1. Cost Recovery - The foundational principle of the 2001 Regulations is cost-based charging, specifically "incremental or additional costs directly attributable to the provision of interconnection." TSPs incur costs for creating and maintaining the physical and network infrastructure, and they must be allowed to recover these legitimate costs to sustain investment.
2. Fair Compensation - Interconnection charges are how operators compensate each other for the use of their networks. Eliminating all charges would unfairly burden the provider whose infrastructure is being used.
3. Fostering Investment - Allowing for cost recovery and fair charges encourages investment in network infrastructure. Without compensation, TSPs would be disincentivized from building and maintaining the infrastructure needed for a robust multi-operator environment.
4. We concur with the Authority that the principles outlined in the 2001 Regulations, such as cost-based charging, reliance on incremental cost, non-discrimination, and avoidance of charges for services not requested, continue to be valid. However, it must be acknowledged that these principles have not been implemented in practice. Operators like BSNL, which have remained perpetual interconnection providers, have consistently imposed unilateral interconnection charges.
5. Beyond the charges specified under existing regulations, BSNL applies several additional charges through unilateral terms governing interconnection. These charges require regulatory oversight and rationalization. One such example is the POI infrastructure charge levied by BSNL, which is linked to city categories and escalated by 10% annually. As a result, these charges have effectively doubled over the past decade.

6. Furthermore, BSNL requires private operators to establish media routes even for BSNL's own traffic, and subsequently levies infrastructure charges for that same media. This practice should be discontinued; if retained at all, it must strictly follow a reciprocal and equitable approach.
7. BSNL also imposes several charges on private operators for shifting or surrendering POIs. These include:
 - a. One year's port charges as surrender charges at the existing POI
 - b. Six months of infrastructure charges at the existing POI
 - c. Fresh port charges at the new POI for the same number of EIs
 - d. Set-up charges
 - e. Duct charges
 - f. Passive media charges

There is no reasonable basis for levying this entire set of charges, and they impose an undue financial burden on private operators. These charges must therefore be regulated to ensure fairness and alignment with the principles already endorsed by the Authority.

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.

IAFI Response:

The relevance of these specific provisions of the 2001 Regulations is minimal and potentially

redundant for governing operative interconnection usage charges (IUC) today.

- i. The Telecommunication Interconnection Usage Charges Regulations, 2003 (2003 Regulations) introduced a comprehensive, cost-based framework for IUC (origination, carriage, and termination charges).
- ii. Regulation 4 under Section IV of the 2003 Regulations specifically addresses the determination and settlement of IUC, specifying rates like Termination Charges and Carriage Charges.
- iii. The text explicitly states that Regulation 4 of the 2003 Regulations makes certain provisions of the 2001 Regulations, "particularly Section IV and Schedules I-II redundant," as they "may no longer reflect current market realities or cost structures" (2.3).
- iv. Schedules I and II specify IUC rates for various calls (local, domestic long distance, international) that formed the operative basis *at the time of issuance* (2001). Since the 2003 Regulations provide the *current* operative rates (2.8), the rates prescribed in the 2001 Schedules are outdated and should be considered superseded for IUC determination.

While the 2003 Regulations link back to the 2001 Regulations generally for "Interconnection Charges", the specific sections and schedules dealing with IUC rates are practically redundant for determining *current* operative IUC rates due to the comprehensive nature of 2003 Regulations and TIR-2018. So, the regulation may be repealed.

A-8: Telecommunication Interconnection (Port Charges) Regulations, 2001 and Its Amendments

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

- i. Port Technology
- ii. Port Size (Capacity)
- iii. Port Charges
- iv. Any other related aspect

Kindly provide a detailed response with justification.

IAFI Response:

IAFI urged that there is a significant and urgent need for change in the regulations governing port technology, capacity, and charges due to the technological paradigm shift from legacy circuit-switched networks to modern IP-based networks.

1. We believe there is a strong and immediate need to update the Telecommunication Interconnection (Port Charges) Regulations 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 behavior, 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.
 - 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.

IAFI Response:

1. Yes, as submitted above, the port charges should be based on cost-based calculation to determine the port charges for IP-based interconnection.
2. We further submit that the port charges should be revised based on actual costs. Additionally, the Authority should mandate that port charges and associated Bank Guarantees be implemented on a reciprocal basis. We understand that the centralized IP POIs will also have a positive impact on this.

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?

- a. If yes, kindly provide justification in support of your response.
- b. If no, kindly provide alternate metrics and demand estimation methods for IP-based interconnection along with detailed explanation.

In either case, kindly provide suitable diagrammatic representation.

IAFI Response:

1. The use of **Erlang** as a traffic unit remains adequate only for existing TDM-based POIs. However, as networks transition to IP-based POIs, Erlang will no longer be a meaningful metric because IP capacity planning is based on maximum concurrent SIP sessions, which functionally correspond to Erlang but are applied differently in an IP environment. Typically, initial IP links at the LSA level are provisioned with a minimum of 10 Gbps bandwidth, with subsequent augmentation aligned to traffic forecasts and the TDM-to-IP migration roadmap. Owing to the scalable nature of IP design, capacity expansion becomes significantly faster and easier, with improved operational efficiency through quicker augmentation, simplified troubleshooting, and enhanced service uptime enabled by IP resiliency, automatic rerouting, and load balancing.

2. In the context of IP interconnection, the arrangement relies on point-to-point (P2P) link connectivity, where the interconnection seeker places its equipment at the provider's designated site and terminates its media at the mutually agreed point.
3. Dimensioning of IP-based POIs is relatively straightforward. Incremental capacity is added in Gbps based on traffic growth observed in the previous two quarters along with business projections from either party. Correspondingly, session allocations are configured at both ends to meet the required capacity. Redundancy is ensured through primary and secondary IP links connected via two separate routers between the TSPs.

A-9: The Register of Interconnect Agreements Regulations, 1999

- Q-31.** 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?
- a. If yes, what changes do you suggest for the online process, timelines, related charges and any other aspect?
 - b. If not, kindly provide justification.

IAFI Response:

IAFI is of the opinion that the current provisions relying on floppy disks and print copies must be dispensed with and the entire process for submission, inspection, and obtaining copies of interconnection agreements should be made fully online and digital. The current methods (floppy disks and print copies) are described as "traditional and outdated" and relying on "largely obsolete technology" that is out of sync with modern digital practices. The physical process is "increasingly inefficient," leads to delays in processing, requires physical movement of documents, and hinders real-time access and efficient data management. Physical processes increase administrative overheads and contribute to environmental concerns due to paper consumption. A fully digital process is necessary to align the regulatory framework with modern digital governance standards and ensure it is agile and efficient in a fast-paced telecom market.

B. Generic Questions pertaining to all existing interconnection regulations

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.

IAFI Response:

We are of the view that introducing additional financial disincentives (FD) is unnecessary in a market that has already reached a high level of maturity. The focus should instead be on ensuring that regulatory requirements are balanced, transparent, and practically enforceable so that compliance is achieved without relying on punitive measures. Moreover, the *Telecommunication Interconnection Regulations, 2018* already contain provisions related to financial disincentives. In light of this, we do not see any justification for expanding or adding further FD mechanisms.

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.

IAFI Response:

The transition mechanism should adopt a Hybrid Model :- a combination of Mandatory Compliance for core regulatory principles and Voluntary Migration with a clear Sunset Clause for commercial terms. This approach balances the need for regulatory modernization and the industry's need for operational continuity and realistic implementation. All existing agreements must immediately comply with the fundamental regulatory principles of the new

framework, irrespective of their original terms. For negotiated commercial terms and non-critical contractual specifics, service providers should be encouraged to migrate voluntarily, but required to do so within a defined period.

Regarding Voluntary Migration with Sunset Clause: - TSPs may negotiate and execute new agreements based on the new regulatory framework, which will supersede the existing agreements. TSPs may be allowed to voluntarily migrate to the new framework immediately upon notification. Sunset Clause (Mandatory Adoption) may be defined to implement, after which all existing agreements, or any terms that conflict with the new framework, will be deemed null and void or automatically replaced by the new Standard Interconnect Agreement.

- Q-34.** What should be the interconnection framework for satellite-based telecommunications networks with other telecom networks? Further, whether the interconnection frameworks for MSS and 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:
- a. Satellite - Satellite network interconnection
 - b. Satellite - PLMN interconnection
 - c. Satellite - PSTN interconnection

IAFI Response:

Interconnection Framework for Satellite-Based Networks:

No requirement to have an interconnection framework for satellite-based telecommunications networks

- Q-35.** Are there any specific regulatory models from other countries that have successfully addressed interconnection related issues and challenges which can be adapted in the Indian telecom sector? If yes, kindly provide details of such international best practices.

IAFI Response:

Q-36. Kindly mention any other challenges or concerns related to the regulations being reviewed in this consultation paper.

IAFI Response:

IAFI suggest the following.

- a. IAFI urge TRAI to establish a framework for LSA-based interconnection, to accelerate the implementation of its above-stated recommendations.
- b. The principle of “Fair, Reasonable, Reciprocal and Non-Discriminatory should be adopted.
- c. The interconnect framework should be based on cost-based charging.
- d. There should be reciprocity in Agreements, fair and equal terms for all.
- e. Approach of Transparency should be adopted by all operators.
- f. Interconnection should be only with a licensed entity having its own access network.
- g. TRAI should review of termination charges for international incoming calls, with an aim of suitably increasing it in line with international benchmarks.
- h. IAFI strongly urged that access to the Register of Interconnect Agreements, or copies of specific pages from any such agreements, should be provisioned through a comprehensive end-to-end digitized process. Furthermore, they requested that the associated fees for this access should be reviewed and realigned to reflect the new digital system.

- i. 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.
- j. Currently, the DoT-designated 1600 number series is restricted to outbound-only service for telemarketing and official service communications. However, market demands necessitate an update. Driven by the need to combat unsolicited communications and establish a trusted, unified identity for high-demand sectors like finance and healthcare, there is a strong justification to enable two-way communication on the 1600 series. Introducing incoming call capability would allow a unified number to function, thereby strengthening brand authenticity, elevating user experience, and critically, mitigating fraud.
- k. Regarding surrender Points of Interconnection (PoIs) or specific ports, the requests by private operators go unanswered, resulting in operators being continuously billed for capacity they are no longer utilizing or are using minimally. This situation goes against the foundational principle of cost-sharing that underpins the regulation and clearly results in a financial detriment to private operators. Therefore, IAFI strongly suggests implementing a structured, time-bound process for PoI surrender, including standardized application formats. Crucially, IAFI recommend explicit provisions stating that if the PSU operator does not respond or act within the defined period, all subsequent charges should be automatically waived, and the private operators should be permitted to proceed with the removal of their equipment.

IAFI Suggestion:

IAFI respectfully submits that, due to the significant technological evolution and market maturity since 1999, it is essential and highly appropriate to consolidate the numerous existing interconnection regulations issued by TRAI into a single, comprehensive framework. This consolidation effort must be forward-looking and future-ready, explicitly integrating new technologies such as IP-based interconnection essential for 4G/5G deployment, and accommodating emerging platforms like satellite-based telecommunications. This necessary review should not only simplify the regulatory landscape but also explicitly re-examine key commercial and technical aspects, including interconnection charges, provisioning processes

(like PoI augmentation and disconnection), and financial disincentives, ensuring the resulting framework is resilient, addresses current operational and financial difficulties faced by operators, and reflects the competitive realities of the sector.

Annexure-II

Brief about IAFI

The ITU-APT Foundation of India (IAFI) is a registered, non-profit, and non-political industry foundation dedicated to advancing the active participation of the private and corporate sector in the work of the International Telecommunication Union (ITU) and the Asia-Pacific Telecommunity (APT). IAFI's mission is to safeguard and promote the interests of the telecommunications and ICT sectors across the Asia-Pacific region, encompassing the full spectrum of technologies, services, and platforms; from GSO and NGSO satellites to mobile networks (4G/5G/6G), Wi-Fi 6e and 7, Private 4G/5G networks, and emerging innovations in digital communications, such as AI, Quantum Communications & Computing, Edge computing, cyber security, THz, and many more. IAFI serves as a vital industry platform connecting stakeholders, including operators, manufacturers, service providers,

academia, and policymakers, with global and regional decision-making bodies. Through active engagement, IAFI facilitates India's industry voice in influential forums such as the ITU, APT, WWRF, FCC, and CEPT.

Recognized as a Regional/International Organization by the ITU, IAFI holds sector membership in ITU-R, ITU-T, and ITU-D, enabling it to directly contribute to global standards, spectrum policy, and development initiatives. IAFI is also an affiliate member of APT, strengthening its role in shaping regional ICT strategies. Each year, IAFI actively participates in a wide range of ITU and APT meetings, regularly submitting many contributions across all sectors to various ITU and APT study groups, working parties, events and conferences. These inputs influence key decisions on spectrum allocation, technology frameworks, regulatory best practices, and next-generation ICT developments. By fostering collaboration, promoting knowledge exchange, and ensuring Indian industry's representation in the global ICT dialogue, IAFI continues to be a trusted voice and advocate for a connected, innovative, and inclusive Asia-Pacific digital future.
