

RJIL/TRAI/2025-26/645

15th December 2025

To,

Shri Sameer Gupta,
Advisor (Networks, Spectrum and Licensing-I)
Telecom Regulatory Authority of India,
Tower-F, World Trade Centre,
Nauroji Nagar, New Delhi – 110029.

Subject: RJIL's comments on TRAI's Consultation Paper on Review of existing TRAI Regulations on Interconnection matters.

Dear Sir,

Please find enclosed the comments of Reliance Jio Infocomm Limited (RJIL) on the TRAI's **Consultation Paper on Review of existing TRAI Regulations on Interconnection matters** dated 10.11.2025.

Thanking you,

Yours Sincerely,

For **Reliance Jio Infocomm Limited**

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Mahipal Singh

Authorized Signatory

Enclosure: As above

**Reliance Jio Infocomm Limited's comments on TRAI's Consultation Paper on
"Review of existing TRAI Regulations on Interconnection matters" dated 10th
November 2025**

Preface:

1. Reliance Jio Infocomm Limited (RJIL) thanks the Authority for giving us an opportunity to offer inputs on the important consultation paper on **"Review of existing TRAI Regulations on Interconnection matters"**, in order to finalize the comprehensive and holistic regulatory regime for the modern IP based interconnected world.
2. At the very outset, we submit that we have already submitted our detailed comments on the pre-consultation on this subject vide letter no. RJIL/TRAI/2025-26/397 dated 23rd April 2025 and the same is being enclosed and should be treated as part and parcel of these comments.
3. We submit that the key outcomes desired from the proposed revision of interconnection regime are detailed below:

A. Delivering a modern, fair, reasonable and non-discriminatory interconnection framework

4. There is no doubt that the commercial and technical arrangement under Interconnection, are necessary and imperative to create a homogenous network for all telecom subscribers. **Thus, it is doubly critical to have a forward looking, technology embracing and simple cost-based interconnection framework to enhance the experience of all users.**
5. The Authority has been the pioneer in developing a fair, reasonable and non-discriminatory interconnection framework through its efforts, for over 2 decades now. However, **there is a need to make the interconnection effective and conducive to new technologies** as the sector has witnessed several technological changes since last review in 2018. We are reiterating these developments in the sector as below:
 - a. **Emergence of pan-India all IP networks.**
 - b. **Major customer shift to data based 4G and 5G technologies.**
 - c. **The expansion of Home Broadband but shrinking of fixed line telephony with mobile becoming primary mode of communication.**
 - d. **Aggregators holding Unified Licenses with no terminating customers and routing solely telemarketing traffic to other licensees' subscribers.**

- e. **A significant rise in A2P voice/SMS traffic, accompanied by a major spike in voice-based UCC originating from both A2P and P2P channels using fixed and mobile numbers.**
 - f. **Major increase in phenomenon of telemarketing through voice and SMS by person not registered as telemarketers.**
6. It is imperative that the interconnection Regulations are updated to reflect these changes. We submit that when the same TSPs are interconnecting for various services across the country, the framework should support the unification the POIs, especially when the technical capabilities are available with all TSPs. However, the Industry is still required to build multiple POIs based on type of traffic (Access, NLD, Mobility, Fixed line etc). This becomes more complex with BSNL where connectivity is required till SDCA level. **In view of the emerging technologies, the Authority should provide for unification of POIs for all types of traffic, basis mutual agreements between operators.**

Levels of Interconnection

7. Further, the minimum level of interconnection should be mandated to the licensed service area (LSA) for all types of POIs be it PSTN to PSTN, PLMN to PSTN and PSTN to PLMN. The PLMN to PLMN POI is already at LSA level. However, this migration primarily requires necessary changes at BSNL end for PSTN connectivity, as all private operators anyways interconnect at LSA level for all type of traffic.
8. The Authority has already mandated the phasing out of SDCA based interconnection for PSTN calls vide an amendment to Telecommunication Interconnection Regulations, 2018

“9A. Level of interconnection for PSTN to PSTN connectivity:-----

(1) Within a service area, the location of POI, for calls between PSTN and PSTN or between PSTN and NLD network, shall be at such place as may be mutually agreed between the interconnection provider and the interconnection seeker.

(2) In case the interconnection provider and the interconnection seeker fail to agree under sub-regulation (1), the location of POI, for calls between PSTN and PSTN or between PSTN and NLD network, shall be at LDCC:

Provided that carriage charge for carriage of calls from LDCC to SDCC and vice versa, as applicable, shall be paid by the interconnection seeker to the interconnection provider:

*Provided further that **the existing POIs at the SDCC level, for calls between PSTN and PSTN or between PSTN and NLD network, shall remain in operation for a period of at***

least five years or till such time the interconnected service providers mutually decide to close such POIs, whichever is earlier...

9. As the timeline of 5 years has passed, the mandate for end of SDCA based structure is already applicable. Further, **the Authority has also appreciated the need to expeditiously move towards LSA based interconnection** instead of the intermediate step of LDCA based interconnection under its Recommendations on Revision of National Numbering Plan dated 6th February 2025, as it would be critical for moving to 10-digit closed numbering scheme and then to Fixed location Routing number (FLRN) based unified numbering scheme,

*“2.30 10-digit closed numbering scheme may require establishing the Point of Interconnection (PoI) between TSPs for fixed-line services at the Licensed Service Area (LSA) level. The shifting of the inter-TSP PoIs at LSA level, fixed-line would require substantial changes to the network routing design across all network nodes in India. Consequently, the Authority opines that the extant **Telecommunication Interconnection Regulations (Second Amendment) 2020 (TIRs) governing PoIs needs to be reviewed for shifting inter-TSP PoIs at the LSA level instead of the LDCA level to facilitate a smooth transition.**”*

10. Thus, clearly the policy intent is already there for immediate migration to LSA based interconnection only thing pending the implementation of the same.
11. However, we should not stop at this level, as the parallel recommendation of the Authority to introduce a national level Unified Service authorisation has been accepted by the DoT, as per TRAI response to back reference to Recommendations on the Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023 dated 28th February 2025. With this impending implementation along with the fact that domestic IUC charge has already moved to Bill and Keep (BAK), **it would be prudent to upgrade the interconnection levels beyond LSA level and consider centralized and unified POIs.**
12. The Regulations should mandate LSA based interconnection and further enable the TSPs to opt for a higher-level interconnection in case of mutual agreement. Thus, in case 2 TSPs agree to have one or two POIs for entire pan-India traffic, then the regulations should facilitate the same.

Modernize and strengthen the Telecommunication Interconnection Regulations 2018

13. The Telecommunication Interconnection Regulations 2018 (TIR-2018) have been a landmark Regulation that has revised the legacy timelines and taken massive steps in curtailing the timelines for establishing and augmenting the POIs, however, establishing a POI is still a very time and effort intensive activity as multiple Acceptance Test Procedures (ATPs) are required for different type of traffic and capacity addition. In case of BSNL time required is in months due to decades old process being followed. The Regulations should ensure that this wastage of time is addressed at the earliest.
14. We further submit that while the Authority has facilitated IP-based interconnection, the pace of migration for IP based POIs at all levels is not optimum. The situation worsens when there is no progress from a key operator like BSNL for moving towards IP interconnect for improved customer experience. We request the Authority to intervene and provide for a time-bound migration plan for IP based interconnection.
15. Further, the Authority is requested to mandate inter operator SMS communication using IP interconnect for service resiliency and technology evolution. It is submitted that SMS interconnect within main private operators has already migrated to IP using SigTran, However, BSNL is still continuing with TDM based HSL links. We request the Authority to include mandatory IP interconnection for SMS in the regulations so that all SMS interconnection is IP based.
16. **Furthermore, as also submitted as part of our response to pre-CP, the current POI architecture lacks resilience and redundancy** due to the continuation of point-to-point implementation for TDM and same is followed for IP POIs as well. There is a need to change that for IP-based POIs going forward. We have suggested a model for interconnection in response to the questions to address the same and would request Authority to consider implementing the same.

B. Addressing the issue of Spam and the need for A2P POIs

17. Telecom spam has emerged as an unintended consequence of the rapid growth of digital communications. Existing interconnection systems and agreements—including the broader interconnection framework—were not designed to address unsolicited messages and calls at this scale.
18. The interconnection framework started with PSNT interconnection, and evolved to include digital communications, however, it was always designed to cater the needs for Person-to-Person (P2P) communication and is ill-equipped to face the avalanche of Application to Person (A2P) messages and calls and needs to be upgraded to meet the requirements of these new age communications.

19. It is submitted that the entire gamut of interconnection regulations, including those pertaining to Reference Interconnect Offer (RIO), Interconnection Usage Charges (IUC), and Telecom Interconnection Regulation have been intended and designed to ensure smooth and hindrance free P2P traffic to ensure every subscriber is able to connect to any other subscriber.
20. However, a mandatory interconnection agreement is not a prerequisite for **A2P voice and messaging traffic**, as telemarketers and aggregators can directly connect with multiple operators. To effectively curb spam, it is essential to create a strong deterrence. Accordingly, we propose the explicit exclusion of A2P traffic from the mandatory interconnection regime, enabling TSPs to levy a deterrence charge on aggregators/telemarketers at the A2P Point of Interconnection (POI), thereby disincentivizing spam traffic.
21. All A2P calls, including those originating from the 1400 and 1600 number ranges, should be identified by the Originating Access Provider (OAP) and delivered through designated A2P POIs. A deterrence charge of at least (floor charges) Rs. 0.50 per minute for voice and Rs. 0.12 per SMS should apply. Currently, a deterrence charge of Rs. 0.05 per SMS is already in place but there is no deterrence charge for voice call leading to huge shift of SMS based SPAMs to voice-based SPAM calls. We have detailed the proposed A2P POI process in our responses to the questions and request the Authority to take the same into consideration.

C. Removing redundant regulations

22. Many of the Regulations pertaining to interconnection related matters were either a product of then prevailing market conditions or Court Orders to prevent violative behaviour by then incumbent operators and have lost relevance with time and need to be either completely removed or the relevant parts of the Regulations should be merged with other regulations or included in a final interconnection code. A few of the suggestions are as below:
- a. **Intelligent Network Services in Multi-Operator and Multi-Network Scenario Regulations, 2006-** This Regulation can be subsumed in Telecommunication Interconnection Regulations 2018.
 - b. **TRAI (Transit Charges for BSNL's Cell One Terminating Traffic) Regulations, 2005-** This regulation will become redundant on moving to LSA based POIs.

- c. **The Telecommunication Interconnection (Reference Interconnect Offer) Regulations, 2002**- Most parts of this regulation are redundant and need to be removed.

D. Providing a comprehensive “Indian Interconnection Code”

23. Another submission is to consolidate and modernize the interconnection regulations is to provide a comprehensive interconnection code. The current interconnection regulations can be divided into two broad parts (a) the regulations dealing with establishing and augmenting the interconnection set-ups (b) the regulations dealing with interconnection related charges be it usage charges or infrastructure charges.
24. The “Indian Interconnection Code” can comprise of two chapters where the first chapter regime can be providing key aspect affecting the setting up and augmentation of POIs and all related aspects. TIR 2018 will be the base for this chapter, and the remaining relevant provisions of other related regulations can be incorporated suitably in this part along with new interventions like separate POIs for A2P Voice and Messages.
25. The Interconnection Usage Charges (IUC) 2003 Regulations, as amended from time to time, would form the base of second chapter regarding interconnection usage charges (IUC) and all other charges will be included in this chapter including the deterrent charge for A2P Voice and messages. No service provider should be permitted to invent new modes to charge the interconnected partners for whimsical reasons.

E. Preventing unilateral charges

26. Another key aspect affecting the efficacy of current interconnection Regulations in the country is various irrational charges imposed by BSNL unilaterally on TSPs. These charges go over and beyond the regulatory mandate and are continued from the times when BSNL was the incumbent dominant operator.
27. Currently, BSNL is levying many charges under the guise of Port charges, duct charges, Infrastructure charges and transit charges that have become obsolete due to technological evolution. None of these charges are applied by private operators amongst themselves for many years. On the other hand, BSNL keeps escalating some of these charges over the year. BSNL is also levying yearly lumpsum charges for handling emergency calls with 10% yearly increment even though traffic is reduced by almost 50% post migration to PSAP connectivity. We have explained these issues in detail, in Regulation wise comments, however, would request the Authority to discuss all these issues under proposed consultation.

28. Another intervention is required in the bringing reciprocity with BSNL in other expenses, for instance, currently, the private operators are required to establish media for both outgoing (OG) and incoming (IC) traffic for BSNL, a status quo that needs to be remedied.

F. Revision of International termination charges and introduction of SMS carriage charge.

29. There is an urgent need for upward revision of international termination charges to at least Rs. 4 per minute due to various factors including but not limited to reciprocity, exchange rate, protection of Indian consumers and preventing flash calls. We have provided a detailed justification in response to questions and request the Authority to take into consideration.
30. There is a need to prescribe the ceiling for SMS carriage charges in same manner as Voice calls, when a NLDO carries the SMS traffic out of LSA. The ceiling should be kept at Rs.0.05/SMS. This charge will be over and above the existing SMS termination charges for P2P and A2P messages.

31. Conclusions

1. The Interconnection regime should be modernized to support new technologies.
2. IP interconnection should be mandated, and unification of POIs should be facilitated.
3. A2P voice and SMS shall not be part of mandatory interconnection and IUC set for P2P voice and SMS.
4. Application Providers/Telemarketers may be given a choice to either connect the termination operator directly or through any other operator using the Pols established for A2P traffic.
5. The levels of interconnection should be upgraded to LSA level on immediate basis and a glide path should be provided for centralized and Unified POIs.
6. Irrational and obsolete concepts like mandatory transit charge imposed by BSNL should be abolished.
7. The POI infrastructure charges including port charges should be on cost basis and on reciprocal basis and each TSP should bear costs for its outgoing traffic.
8. The emergency charges should be cost based following principle of equality and should be governed by TRAI regulations.
9. There is a need to review ITC charges and address the menace of flash calls and SPAM/Fraud calls.

10. There is a no need to review the present cost-based SMS charges. However, there is an urgent need to increase/ introduce deterrent charge for both SMS and Voice calls.

11. There is a need to introduce SMS carriage charges for inter-LSA SMS.

Regulations-wise Specific Questions

A.I. The Telecommunication Interconnection Regulations, 2018

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.

RJIL Response:

1. Yes, as submitted previously and in preface, the SDCA level interconnection has lost relevance from all perspective be it technical or customer convenience and has just become a roadblock for any service provider seeking to launch commercial services, especially the Fixed Services, in the country and should be abolished through TRAI Regulations.
2. The Regulations should explicitly mandate that the lowest level of interconnection for PSTN to PSTN, PLMN to PSTN and PSTN to PLMN should be the licenced service area and all service providers should be required to offer interconnection at LSA levels. The regulatory momentum and intent are already in this direction, as explained in the preface and we are not repeating the same here for sake of brevity. The Authority should follow through on its own regulations and recommendations to implement the same.
3. As a deterrent to intentional blocking of this migration, the Authority should mandate that all interconnection related cost for both parties will be borne by delaying service provider.

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.

RJIL Response:

Yes, as suggested above, the service providers should be permitted to interconnect at levels higher than LSA in case of mutual agreement. The interconnection can eventually be taken to one or two points of interconnection all across the country. The operators should of course ensure the redundancy and resilience of interconnection points. We have proposed a model for such interconnection in subsequent response for consideration.

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.

RJIL Response:

1. We propose the following changes in the TIR 2018, which can also be replicated in Interconnection code.

9A. Level of interconnection for PSTN to PSTN, PSTN to PLMN, PLMN to PSTN connectivity: -----

- (1) The level of interconnection for PSTN to PSTN, PSTN to PLMN, PLMN to PSTN should at least be at Licensed Service Area level for calls between PSTN and PSTN or between PSTN and NLD network.*
- (2) The POI shall be at such place as may be mutually agreed between the interconnecting partners.*
- (3) The interconnecting partners can mutually agree to have a POIs for multiple LSAs at a mutually agreed single location. They will be responsible for maintaining resilience and redundancy of the POIs.*
- (4) In case the interconnecting partners fail to agree under sub-regulation (1), the location of POI, for calls between PSTN and PSTN or between PSTN and NLD network, shall be at State Capital. In case of LSA encompassing multiple states the POI will be at the larger city.*
- (5) There will be no carriage charge for carriage of calls from POI to SDCAs and each party shall be responsible for carrying its own traffic to and from the POI.*

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.

RJIL Response:

1. As submitted in our comments to the pre-CP, multi-path resiliency will come by design as we move to higher levels of interconnection. For instance, if we move to 4 regional Interconnect POP locations for IP Based Interconnection. Each POP location will have primary and secondary media path. This will enable multipath resiliency like data traffic interconnects.
2. All offnet outgoing traffic will be handed over to B Party (Terminating Subscriber) operator at nearest IP POP location of the B-Party and further routing will be handled by terminating network. In case nearest path is down then remaining 3 paths can be used for traffic routing.
3. SBC will be in pool and traffic distribution along with resiliency will be managed by respective operator.

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.

RJIL Response:

No there is no need to incorporate security provisions in the interconnection framework to ensure network security. We submit that modern networks are built around the principle of “Security by Design”. Further, network security provisions are part of the Telecommunication Act 2023, associated Rules (currently at draft stage) and the Unified License provisions and there is no need to incorporate the same as part of TRAI Regulations.

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.

RJIL Response:

1. Yes, there is a need to mandate IP interconnection. The Authority is aware of the global migration towards IP interconnection, and many global bodies have provided technical solutions and forward path towards IP based interconnection.
2. As discussed before, **IP-based interconnection is one key technology initiative that needs an urgent regulatory mandate.** The Authority has noted in its Recommendations on Revision of National Numbering Plan dated 6th February 2025 that IP-based interconnection is best suited for managing voice traffic and would be critical for managing numbering resources. It has recommended a consultative process delivering universal IP based interconnection at LSA level.

*“2.31 Further, in the IP-native architecture of modern telecom networks, IP-based interconnections provide an optimal solution for managing voice traffic; however, many interconnections among major Telecom Service Providers (TSPs) remain tethered to outdated TDM protocols. This reliance on TDM for intra as well as inter-TSP connectivity requires IP to-TDM conversions, introduces latency and hinders higher QoS for voice traffic. Although there has been progress in implementing intra TSP IP-based Pols within the networks, the absence of widespread IP interconnections across networks is apparent. **This situation indicates a pressing need for harmonised, fully IP-based interconnectivity, preferably at the LSA level, across telecom networks, to ensure consistent voice quality, free from the drawbacks of protocol conversions. In view of the aforementioned, the Authority opines that to establish universal IP-based Points of Interconnection (Pol) at the LSA level among TSPs to phase out TDM-based Pols (both at intra and inter TSP level), the extant Telecommunication Interconnection Regulations (TIRs) governing Pols and Port Charges (including subsequent amendments), needs to be reviewed through a separate consultation”.***

3. We submit that this is the logical next step. In India, the only entity not supporting this transition—despite having upgraded its core infrastructure to IP and having launched pan-India 4G services—is BSNL. This position appears intended to continue charging private operators for the inefficient Pols built over its legacy TDM-based network.
4. Migration to an IP network is essential for any operator offering 4G, 5G, and future services, including inter-operator video calls. As all operators progressively

upgrade their networks to IP, a phased migration to IP-based interconnection is both necessary and inevitable.

5. We submit that IP POI enables Offnet services at par with Onnet services, Key Services Enabled by IP Peering are as follows:
 - a. E2E VoLTE & Voice over New Radio (VoNR)/ Video over New Radio (ViNR) transcoding free experience by supporting all advance codecs and offering HD quality communication with faster call setup times.
 - b. Rich Communication Services (RCS) includes IP Chat, Presence services, Location Sharing,
 - c. Advanced Services will be available natively with IMS Data-Channel for instance:
 - i. Extended Reality (XR) / Immersive, Calling Holographic communication, spatial-audio calls, Remote-surgery assistance using haptic feedback
 - ii. Augmented Reality (AR) Enhancements, Interactive calling and AR-enabled screen sharing and Real-time translation and subtitles
 - iii. Virtual Reality (VR) & Audio-AR Experiences, Streaming immersive video to AR/VR devices and Audio-augmented experiences over smart headphones.
6. Further, globally also, IP-based interconnection is on the rise. GSMA¹ has developed a tool to facilitate the creation of IP-interconnection between parties and this has been leveraged in successful establishment of IP-interconnection between network operator in Denmark, Kuwait, Mexico & Russia.
7. It is also indisputable that the networks and consumers are migrating to data-based technologies like 4G and 5G. PwC² telecom outlook notes that by year 2028 two thirds of mobile users globally will be on 5G with most of the remaining customers being on 4G. Voice calls under these data technologies are also in the form of data packets and this migration can pave the way for centralized data-based interconnection.

¹ https://www.gsma.com/solutions-and-impact/technologies/networks/ip_services/interconnection/

² <https://www.pwc.com/gx/en/industries/tmt/telecom-outlook-perspectives.html>

8. We further request the Authority to mandate inter operator SMS communication using IP interconnect for service resiliency and technology evolution. It is submitted that in this case also, SMS interconnect with main private operators has migrated to IP using SigTran, However, BSNL is still continuing with TDM based HSL links. We request the Authority to include mandatory IP interconnection for SMS in the regulations.

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.

RJIL Response:

As mentioned previously, this regulation is a big step in modernizing the interconnection framework and is working fine with all private operators; however, it has completely failed with BSNL. Thus, more important than focussing on changing the timelines is to ensure that BSNL complies with the Regulations.

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.

RJIL Response:

1. As mentioned previously, the TIR 2018 regulation is an evolved regulation and covers for all interconnection related requirements and provides realistic timelines for completing these activities. Thus, there is not much need for change in this regulation but for 3 critical asks discussed in previous sections as well.
 - a. Ensure that all operators comply with the timelines.
 - b. Mandate the migration to IP based interconnection.
 - c. Ensure that the mandate of migration to LSA level POI is carried out.

2. However, the Authority is aware that only one operator is blocking these progressive steps therefore measures should be introduced to increase the enforceability of the Regulations with that operator.
3. Further, with respect to “The Telecommunication Interconnection (RIO) Regulations, 2002”, and “The Telecommunication Interconnection (Charges and Revenue Sharing) Regulation 2001”, we submit that most operative and relevant parts of these Regulations are already addressed by other Regulations like TIR 2018 and IUC 2003 Regulations. Thus, these regulations can be repealed and if required the guiding principles of these regulations can be incorporated in TIR 2018 or in the Indian Interconnection Code, as deemed feasible.

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.

RJIL Response:

1. We submit that the current procedure for disconnection of POIs is based on reasonable principles of giving sufficient time to the non-complying party to address the issue and we do not see need for any change in this Regulation.
2. It is further submitted that this will become irrelevant as we move to higher levels of interconnection and truly implement the principle of reciprocity in interconnection charges, as the possibility of disputes will dwindle.

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.

RJIL Response:

1. The surrender of POIs should be a regulated process and would be required as long as SDCA based POIs are in existence. The procedure can be based on reasonable notice of maybe 15-30 days, so that the other party can arrange to shift its traffic.

2. Further, the provisions for surrender of POI should imply that once the POI surrender notice is issued, the interconnection related charges should not be applicable post the notice period. Subsequent to the notice period, any costs owing to delay in discontinuation of POI should be the sole responsibility of the delaying party and cannot be transferred.

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.

RJIL Response:

No, we do not agree with the provisions of Bank Guarantees to secure the financial interests of the parties. We submit that interconnection is a license requirement which is further governed by TRAI Regulations and the interconnecting parties are licensees with huge financial commitments, thus, requiring BGs to secure interconnection-related payments seems superfluous. Therefore, we submit that this requirement should be removed.

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.
and

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.

RJIL Response:

1. The Financial Disincentives of Rupees One Lakh per day for per licensed area for contravention of the provisions of the Regulations are already in place and there is no reason to revise these requirements.
2. We remain principally opposed to the concept of Financial Disincentives in a matured telecom market, however, submit that the regulatory provisions should be enabling enough to ensure compliance by the service providers.

3. Further, in case of delay in the payment of interconnection-related charges, the invoicing party should have right to set off these charges from its payable, as part of the interconnect regulation, irrespective of the provision of the interconnect agreement.
4. Even, in current circumstances, only one TSP regularly contravenes to the regulations and there are no interconnection related issues between other operators, thus steps should be taken to enforce the Regulations without getting into a regime of excessive Financial Disincentives.

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.

RJIL Response:

1. We submit that there are two aspects to SMS services. The one is P2P SMS that is governed by the cost-based SMS termination charge under the SMS Termination Charges Regulations 2012, and the P2P SMS market has been running smoothly under this Regulation and accordingly, there is no need for an intervention or change in P2P SMS termination charges.
2. However, much larger proportion of messages are the A2P messages that include promotional, service and transactional messages. While the Telecom Commercial Communications Customer Preference Regulations, 2018 (TCCCPR 2018) provides for charges for such messages, however, there remains an urgent need to provide a deterrent SMS termination charge for A2P SMS i.e. for promotional, service and transactional SMS.
3. Despite of this urgent need to increase the deterrent charge to 12p/SMS the second amendment to TCCCPR 2018 has not intervened in this. We submit that the Authority should leverage this opportunity to revise the SMS termination charges for A2P messages to 12p/SMS. This should be over and above any carriage charge paid to the NLDOs for carrying inter-LSA SMS.
4. We also seek additional intervention in creating a deterrent for A2P voice calls that has become a bigger menace for the consumers. We submit that the Authority should prescribe a deterrent charge of Rs 0.50 per minute on A2P calls and in case the same is not implementable then the Authority should bring these termination

charges under forbearance. The deterrence termination charge for A2P SMS has shown its usefulness in substantial reduction in SMS based SPAMs and the same should be replicated.

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.

RJIL Response:

1. Yes, SMS carriage is an important activity carried out by NLDOs, and we agree with the Authority that there is a need to assess whether suitable compensation for the SMS carriage by the NLDOs should be mandated.
2. However, instead of getting into the cost-based calculations to fix the carriage charge, the Authority is requested to provide an appropriate ceiling for NLDO carriage of SMS. This can be set 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.

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.

RJIL Response:

1. We submit that this Regulation was a key measure to enable the interconnection of IN services and has facilitated the IN-interconnection basis reciprocal charges and is working well. No issues are faced currently, and none are envisaged in future.
2. Further, there is no need to keep this separate Regulation, and it can be subsumed in the Telecommunication Interconnection Regulations 2018, or Interconnection code, if deemed feasible.

3. One additional aspect of these services is the lack of porting of IN numbers. We understand that this is not a part of this consultation process but would request the Authority to take up this issue in right earnest so that the IN numbers can be ported out at customer requirements.

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

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.

RJIL Response:

This Regulation was enacted in compliance with an order by Hon'ble TDSAT to prevent an illegal transit charge imposed by BSNL for routing calls to CellOne subscribers and there is no need to re-evaluate the issues under this Regulation. It is further submitted that this Regulation will become redundant when we move to LSA level POIs and all P2P traffic will be handed at these POIs on no cost basis to either party.

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.

RJIL Response:

1. The inter-operator domestic IUC charges have already moved to BAK, and this arrangement is working well, as submitted earlier as well. Thus, there is no need to intervene in the origination, carriage and termination charges.
2. The only persistent issue remains is the irrational transit charges being charged by BSNL. We submit that with current fixed line traffic patterns, the private operators do heavy lifting for BSNL traffic, and this charge has lost all relevance.

3. Further, with proposed LSA level and centralized interconnection, each operator will be required to take care of incoming traffic for its customers, and the transit charge can be abolished under the principle of reciprocity. Accordingly, we request the Authority to abolish the transit charges.

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?

RJIL Response:

1. We submit that provision of emergency calls/SMS is actually a public welfare service, and no operator should be allowed to treat this as a monetization possibility. The Regulation should mandate that no charges are to be levied for Emergency services neither annual lump sum charges nor any call-based charges.
2. It is submitted that currently, BSNL is also levying yearly lumpsum charges for handling emergency calls with 10% yearly increment even though traffic is reduced by almost 50% post migration to PSAP connectivity. It is expected that that anyways this traffic will become insignificant soon so these lump sum charges are an unnecessary huge burden on TSPs for providing a public service and should be removed through an immediate regulatory mandate.
3. We further submit that in order to have smooth emergency call routing, PSAP providers should be covered under Interconnect regulation to provide required capacity for emergency call routing and maintain service SLA. They should support SIP based connectivity to avoid TDM convertor requirement. Minimum 2 locations should be connected for service resiliency and mitigating dependence on BSNL for traffic overflow.

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.

RJIL Response:

1. The determination of International Termination Charges (ITC) for international incoming calls is another key pending ask that needs immediate intervention by the Authority. We reiterate our submissions that there is a need to re-evaluate the

issue as the ILD termination charges from the current prescribed range of Rs.0.35 per minute to Rs. 0.65 per minute vide 16th Amendment to IUC Regulations dated 7th April 2020.

2. We reiterate that this range is not optimum and there is a need to further increase the ILD termination charges (ITC) to at least Rs. 4 per minute. The Authority is aware that the ITC in India remains the lowest in the world and we continue to pay much more for small countries especially the Middle East ones and so the cost reciprocity does not exist.
3. It is further submitted that the blended termination rate paid by ILDOs for outside India termination to foreign carriers comes to around Rs.4.50 per min, while the foreign operators merely pay average Rs.1.10 to Rs.1.25 min for India Inbound out of which 65p goes as ITC. Thus, Authority's intervention is required to balance this.
4. Another critical aspect to consider is that the termination voice charges to India and from India are settled in US dollars with global operators. With the continuous rupee depreciation against dollar in the last few years the cost of India out termination (settled in USD) has increased significantly. At the same time, it is not possible to increase the ISD charges for our Indian subscribers (paid in INR) due to lack of price elasticity as the OTT substitution is already cannibalizing the revenues. **Thus, the only way to change this skewed market structure is to increase the ITC for the global operators to terminate voice calls into India.**
5. We submit that due to fluctuation in forex rate out payout to foreign operators has increased. Following are top 15 India outbound list of countries and blended rate being paid for outbound ILD call is evident from the below table.

Country Name	Traffic %	Rate in USD	Rate in INR
UNITED ARAB EMIRATES	50%	0.062	5.47
USA_CANADA	8%	0.005	0.46
SAUDI ARABIA	6%	0.110	9.75
NEPAL	3%	0.159	14.17
UNITED KINGDOM	2%	0.020	1.81
BANGLADESH	2%	0.023	2.03
VIETNAM	1%	0.066	5.86
THAILAND	1%	0.030	2.63
OMAN	1%	0.137	12.19

Country Name	Traffic %	Rate in USD	Rate in INR
INDONESIA	1%	0.037	3.31
AUSTRALIA	1%	0.024	2.13
QATAR	1%	0.157	14.01
SINGAPORE	1%	0.023	2.01
CHINA	1%	0.064	5.74
SRI LANKA	1%	0.1300	11.57
	Blended Rate	0.0500	4.45

6. We also bring to your kind attention that the cost of ILD Termination in India is probably the lowest in the world. Even neighboring SAARC countries like Bangladesh, Pakistan, Nepal, Sri Lanka, Malaysia, Singapore have an average blended rate of nearly Rs.5 per min, whereas the Middle East countries have much higher blended rate for instance UAE Rs.11.57, Qatar: Rs.12, as is evident from below table.

Country	Market Rate \$	Market Rate INR
Pakistan	\$ 0.0325	₹ 2.89
Singapore	\$ 0.0250	₹ 2.23
Qatar	\$ 0.1350	₹ 12.02
China	\$ 0.0620	₹ 5.52
Nepal	\$ 0.1200	₹ 10.68
Saudi Arabia	\$ 0.1050	₹ 9.35
UAE	\$ 0.1300	₹ 11.57
Sri Lanka	\$ 0.1350	₹ 12.02
Oman	\$ 0.1340	₹ 11.93

7. Evidently, the lower termination rate for India has led to loss of opportunity to earn higher Forex Exchange and passing on the benefits to carriers / customers outside the country. Whereas we are paying more to foreign carriers as outbound termination charges without any reciprocity.
8. We understand that Authority's analysis on falling ILD minutes, however, submit that the same is primarily due to OTT substitution, where the unregulated OTT apps are able to offer free services and submit that the same is not going to be addressed by lower ITC charges. It is pertinent to note that fall in traffic is happening despite lower ITC for last 5 years.

9. Furthermore, we understand that increase of ILD termination rates will not trigger a migration to OTT rather than normal calling as the consumer behaviour has stabilized and more importantly, most of the India ILD traffic is with Middle East countries that do not allow OTT app calling, thus no impact is seen due to increase in ITC. Thus, we reiterate our submission to increase the ITC to at least Rs. 4 per minute.
10. **Change ILD incoming pulse to 60/60 from 1/1:** Another critical phenomenon is the flooding of spam and flash calls on ILD networks. In case of Flash call, a near-instant dropped call is automatically placed to a mobile number, usually as part of an authentication process known as flash call verification. By default, there is NO termination fee charge for the call as it is not answered and is simply recorded as a missed call in the phone's log.
11. Such Flash calls are impacting Voice and SMS revenue because these are Zero duration calls so does not generate any revenue for Voice traffic. However, these Flash calls create a surge in signalling traffic without generating corresponding revenue from call charges. This leads to a business loss for the operators, and we estimate over 8 figure loss on monthly basis due to flash calls. This also creates arbitrage over ILD SMS apart from the spam calls which are getting difficult to manage.
12. We submit that this can be addressed by changing the pulse to 60 second instead of 1 second for settlement. However, as operators have different implementation, a uniform approach should be mandated to ensure compliance by all stakeholders.

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.

RJIL Response:

1. This is a key issue requiring the intervention by the Authority. We are providing a solution to address this issue. Under the existing interconnection framework, the Points of Interconnection (Pols) established between operators carry both Person-to-Person (P2P) and Application-to-Person (A2P) voice and SMS traffic.
2. Several Unified Licensees (Access Service)—including entities such as TTL, RCom, Videocon, Ring central, Zoom—despite having zero or very small active

subscriber bases, have entered into interconnect arrangements and obtained Pols for terminating A2P traffic originating from aggregators and call centres.

3. Because bulk communication providers (aggregators/call centres) are typically located at limited geographic locations, these licensees find it operationally easy—and commercially attractive—to deploy PRIs at these locations, collect bulk A2P traffic and terminate it on main access service provider's network.
4. The current regulatory regime, which prescribes **zero termination charge for voice** and **extremely low IUC for SMS (2 paise + 5 paise)**, enables such operators to retain a disproportionately large share of A2P revenue with minimal network investment. Meanwhile, TSPs like RJIL—despite of their substantial investment in spectrum, radio access network and nationwide infrastructure—receives only a negligible share of revenue from such operators.
5. A significant portion of spam and fraudulent calls/SMS received by Jio's 500 million subscribers also originates from these bulk routes controlled by such operators. However, due to the mandatory nature of current interconnect obligations, RJIL has limited capability to:
 - Selectively filter or block traffic from such operators,
 - impose deterrence charges, or
 - disconnect/penalize operators routing spam or fraudulent traffic.
6. This creates a three-fold disadvantage:
 - a. **Customer dissatisfaction** due to inability to effectively curb spam and fraud.
 - b. **Regulatory scrutiny and penalties**, as TRAI's UCC framework assigns responsibility for detection to the terminating operator.
 - c. **Loss of legitimate revenue**, as smaller operators exploit zero/low IUC while leveraging RJIL's infrastructure.
7. **Proposal to address this anomaly**
8. Historically (prior to 2010–2012), interconnection Pols were used exclusively for P2P traffic. A2P SMS was predominantly on-net, and A2P voice was limited due to high termination charges.
9. Following the introduction of TRAI's UCC regulation and the recognition of off-net A2P traffic, the same Pols began carrying bulk telemarketer traffic. After voice IUC moved to a Bill-and-Keep regime, off-net A2P traffic grew substantially because

originating operators retain the majority of the revenues. Consequently, several small operators have built a business model focused solely on enterprise/telemarketing traffic.

10. It is therefore proposed that:

- a. **Existing interconnection agreements should be restricted strictly to P2P traffic.**
- b. **A separate, dedicated interconnection agreement must be executed for A2P traffic**, with distinct commercial, technical and operational terms.

11. While smaller operators may resist this change, it must be firmly communicated that mandatory interconnect obligations under the regulatory regime apply **only** to P2P traffic and not to A2P enterprise communication.

12. Expected Benefits

a) Prevention of Regulatory Arbitrage

Telemarketers and aggregators currently exploit the zero-IUC regime for P2P SMS/voice to avoid paying commercial A2P termination rates.

Under a separate A2P agreement, TSPs can prescribe **deterrent termination charges (e.g., 50 paise per voice call)** for A2P traffic.

This will:

- increase enterprise communication revenues, and
- discourage misuse of the P2P route by telemarketers.

Originating operators will be compelled to factor this termination charge into their commercial offerings to telemarketers/aggregator, eliminating arbitrage.

b) Logical and Operational Segregation of Traffic

A2P traffic will be routed exclusively through **dedicated A2P Pols**, by logically separating or establishing new Pols.

This gives RJIL the technical capability to:

- apply AI-based spam/fraud detection tools,
- block or throttle suspect traffic, and
- enforce stricter controls on enterprise routes.

c) Improved Traceability and Accountability

Operators must share identifiers of PRIs issued to telemarketers for promotional and transactional purposes. This will enable RJIL to maintain route-level visibility and apply filters accurately.

d) Enforcement and Compliance

The new P2P agreement will include **penalty provisions** for any operator routing A2P traffic through P2P Pols. This creates a strong deterrent against misuse.

13. Conclusion

Segregating P2P and A2P traffic through separate agreements and dedicated Pols is essential to:

- Curb spam and fraudulent calls/SMS,
- Ensure regulatory compliance,
- Restore customer trust, and
- Secure fair commercial value for the use of RJIL's network.

This proposal aligns with global best practices where enterprise communication traffic is commercially and operationally distinct from retail person-to-person traffic.

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.

RJIL Response:

1. We submit that there is no need to change or update the RIO Regulations in view of the technological and market evolution in last 2 decades. It should be borne in mind that these Regulation were important when private service providers were just entering the market and there were issues with interconnection with incumbent Government players and these Regulation played a significant role in increasing the competition in mobile and basic telephony and provide access to all TSPs to interconnected networks.
2. However, subsequent to the issuance of Telecommunication Interconnection Regulations, 2018, that provides for interconnection requirements and provided

timelines for all associated activities, this Regulation has lost its relevance and accordingly this Regulation should be repealed.

3. If the Authority feels that some of the guiding principles of this Regulation have a relevance in current market scenario, then at most broad guidelines based on fair, reasonable, and non-discriminatory principles for offering interconnection should be included in the TIR 2018 and rest of the activities should be left to bilateral negotiations to promote flexibility and reduce regulatory burden, as the Indian telecom market is a matured and competitive market.
4. The Authority already has sufficient provisions under TIR 2018 to protect and safeguard the interests of smaller or new entrants in scenarios where bargaining power is uneven.

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.

RJIL Response:

We submit that the Authority had earlier sought to redefine the definition of SMP through a Telecommunication Tariff Order Amendment (TTO 63rd Amendment). However, the same was challenged by a few stakeholders and the matter is sub-judice in Hon'ble Supreme Court. Therefore, this discussion should be set aside.

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

RJIL Response:

We submit that industry is already working on standardized interconnect agreements built on the reciprocity principles and the same are offered to all competitors on equal levels. Further all such agreements are mandatorily filed with TRAI and can be independently examined by TRAI to validate these principles of reciprocity and non-discrimination. Therefore, the publishing of RIO also has no relevance and should be repealed.

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.**

RJIL Response:

1. We agree with the Authority that the principles provided in the 2001 Regulations viz. cost-based charging, consideration of incremental or additional cost, non-discrimination and no unwanted charges for service not sought remain relevant, however, it is pertinent to note that these principles have never been implemented in the practice. The perpetual interconnection providers like BSNL have always imposed one sided interconnection charges.
2. As mentioned above, in addition to the charges mandated by Regulations, the interconnection with BSNL is also governed by various unilateral charges imposed by BSNL and the same should be regulated.
3. One such charge is POI infrastructure charges which are levied by BSNL on a city category basis and are increased by 10% per annum and have consequently doubled over the last decade.
4. Additionally, BSNL forces the private operators to build the media for even its own traffic and charges infrastructure charges for the same. The practice should be stopped and if required it should be based on the principle of reciprocity.
5. Further, BSNL is also charging the private operators for shift/surrender of the POIs. BSNL levies the following charges for POI shifting:
 - a. Surrender charges at existing POI equivalent to one full year's port charges
 - b. Surrender charges at existing POI equivalent to six months Infra charges
 - c. Fresh port charges for new POI for an equivalent number of E1s
 - d. Set-up charges
 - e. Duct Charges
 - f. Passive Media charges

It is submitted that there is no justification for the above-mentioned charges and there is a need to regulate the same.

6. Also, for PSTN interconnection, leased circuits are mandatorily required to be taken from the BSNL, if own media is not possible. In such cases, neither third party media is permitted, nor any SLAs / uptime assurance are provided. We request regulatory intervention to prevent such onerous conditions.

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.

RJIL Response:

1. As noted by the Authority, the operational provisions of the Telecommunication Interconnection (Charges and Revenue Sharing) Regulation, 2001 have been repealed or amended by the Telecommunication Interconnection Usage Charges Regulation, 2003 and TIR 2018. Thus, this Regulation and above-mentioned schedules have lost relevance, and the Regulation should be repealed.
2. However, in case the Authority feels the need to continue including the guiding principles like cost-based charging, consideration of incremental and additional costs, non-discrimination in TSPs, not charging for any service not sought by the seeker etc. then these can be included in the TIR 2018.

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:

Port Technology

Port Size (Capacity)

Port Charges

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

RJIL Response:

1. We submit that there is an urgent need to amend the Telecommunication Interconnection (Port Charges) Regulations (as amended from time to time) to reflect the current market realities. The current port charges are governed by the Telecommunication Interconnection (Port Charges) (Second Amendment) Regulations, 2012 dated 18th September 2012 and the prescribed the Port charges are as under:

Coverage	Charges for “Ports” (other than the Port charges for internet)	
Port Charges	Port charges (in Rs.) per port per annum for providing port in MSC	Port charges (in Rs.) per port per annum for providing port in Tandem TAX Switch
	4,000	10,000

2. We submit that these E1 port charges were derived basis the prevailing market scenario in 2012 and need to be revised due to massive technological changes and changes in market scenario in last 10 years as detailed below. With the growth in telecom services, introduction of IP technology and economies of scale, the network costs for provision of Ports have reduced drastically and the current levy does not reflect the cost of the service.
3. Further given the humongous increase in the volume of traffic and increased connectivity between TSPs with TAX switches becoming redundant, it is imperative that all legacy and one-sided levies like port charges are reviewed and reduced. However, this situation of disproportionate Port charges is further complicated by the Telecommunication Interconnection Regulations 2018, amendment dated 5th July 2018, which inserted 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. Evidently, this proviso is effectively legitimizing the continuation of the unilateral, one sided and coercive terms that BSNL/MTNL have been unilaterally prescribing

for port and infrastructure charges. This proviso also needs to be removed as it goes against the very concept of transparency, fairness and reciprocity in the interconnect agreements entered between operators and any revised port charges prescribed by the Authority should be applicable for all ports irrespective of the time when it was provisioned.

5. The removal of long-standing legacy regulatory interventions that have become redundant due to convergence, technological advancements, changes in consumer preferences, economies of scale, and changes in the policy framework, migration to a bill and keep regime for all types of connections, must be a priority for the Authority
6. In light of the above, we request the Authority to kindly review and revise the E1 Port Charges prescribed vide The Telecommunication Interconnection (Port Charges) (Second Amendment) Regulations, 2012 on 18th September 2012 and also prescribe IP Port charges for the upcoming migration to IP interconnection.
7. In view of the above, we submit that
 - a. **The port charges should be reviewed and reduced.**
 - b. **The changes in port charges should be applicable to all ports in operation.**
 - c. **The port charges related proviso should be removed from Telecommunication Interconnection Regulations 2018**
 - d. **BSNL and MTNL should be mandated to comply with the Telecommunication Interconnection Regulations 2018 and bear the cost of their own ports after bifurcation.**
 - e. **BSNL/MTNL should be asked to refrain from imposing irrational 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.

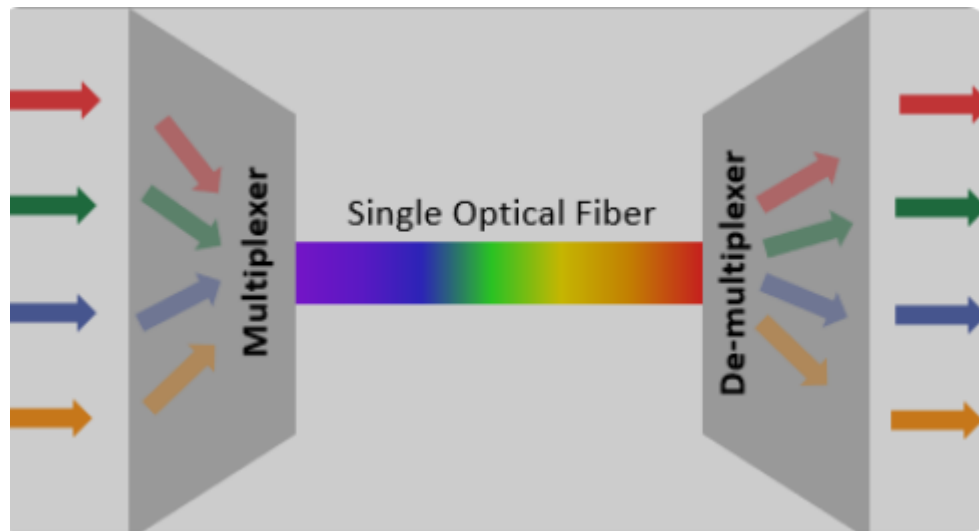
RJIL Response:

1. Yes, as submitted in the above response, the port charges should be uniform across services. There can be a cost-based calculation to settle the port charges for IP based interconnection.
2. We further submit that the port charges should be revised basis actual costs. Further, the Authority should mandate that port charges and associated Bank Guarantees should be implemented on reciprocal basis. We understand that the centralized IP POIs will also have 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? 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.

RJIL Response:

1. We submit that Erlang as a unit of traffic in various interconnection regulations is sufficient only for current TDM POIs. However, as we go forward to IP-based POIs at all interconnection points, this will no longer have much relevance as the IP POIs capacity will be planned based on Maximum concurrent IP sessions (SIP) requirement which is equivalent to Erlang. Initial IP Links are established at LSA level with minimum 10Gbps BW and augmented as per traffic forecast and TDM to IP conversion plan. However, owing to the inherent design the IP based POIs, can be scaled up very quickly and very easily. Further the operational efficiency for POI improves through faster capacity augmentation, simplified troubleshooting, and higher service uptime enabled by IP resilience, automatic rerouting, and load balancing.
2. It is further submitted that the IP interconnection is established with P2P link connectivity, where the Interconnection seeker installs equipment at provider’s designated location and terminates its media at the agreed location. The Network elements/ Equipment under use are:
 - a. DWDM/SDH MUX for connectivity
 - b. 10 G port link
 - c. Peering SBC for SIP signalling and RTP bearer and further call routing.



3. Dimensioning of IP POIs is much simpler and Incremental capacity requirements added in Gigs based on the traffic growth in last 2 quarters and business projections by either party. Basis the same, sessions are allocated and configured at both ends to meet the capacity requirements. Redundancy is achieved using primary and secondary IP link connectivity with two different routers between TSPs.

A.9 The Register of Interconnect Agreements Regulations, 1999

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.

RJIL Response:

1. Clause 5, Section-III of the Register of Interconnect Agreements Regulations 1999, requires the service providers to furnish two copies of the all-new Interconnect Agreements in print form (2 copies) along-with the soft copy of the same.
2. This is a superfluous requirement and while we agree with the need for submitting the agreements, it is submitted that this can be easily digitalized. Instead of the physical submissions, the Interconnect agreements can be uploaded to a portal provided by TRAI.

3. We submit that TRAI has already taken major steps in creating a paperless environment by accepting digital/online submissions of reports, compliances, and various other correspondence and accepting of Interconnect Agreements would further support the environment friendly practices.
4. Therefore, we request the Authority to amend the above-mentioned regulatory provisions suitably and to do away with paper-based submissions and facilitate the TSPs in meeting these compliance requirements through online submissions.

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.

RJIL Response:

As mentioned above, we are against the concept of financial disincentives (FD) in a mature telecom market and believe that the regulatory provisions should be fair and enforceable at the same time to ensure compliance and there should be no need for FDs. Further, the TIR 2018 already has FD provisions, so we do not see any need for additional FDs.

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.

RJIL Response:

1. All existing interconnection agreements (IAs) have a provision that the agreement terms are subject to TRAI Regulations. This ensured that agreement did not require redrawing post the notification of TIR 2018 and the same should be applicable now.

2. As and when the revised Regulations become applicable, the IAs will be required to be compliant to the same and there is no need to prescribe a timeline for transition of agreements.
3. Further, in case the parties agree to re-draw the agreements, the same can be done side by side to the existing agreements.

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: Satellite - Satellite network interconnection Satellite - PLMN interconnection Satellite - PSTN interconnection

RJIL Response:

The Satellite based communication services will be offered by the service providers only under access services authorization and therefore there is no need for a separate interconnection regime for these service providers, and they should seek interconnection as per the existing regime.

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.

RJIL Response:

1. We submit that there is massive regulatory momentum towards migration to IP based interconnection. Ofcom's *Future of Interconnection* programme ³sets a clear roadmap for moving POIs from TDM to native IP/SIP-based interfaces. BEREC⁴ has advised NRAs to ensure clear IP interconnection frameworks, defined migration timelines, partner notifications, and protection of emergency services. Germany's regulator, BNetzA, has issued "Key Elements for Interconnection of IP-

³<https://www.ofcom.org.uk/consultations-and-statements/category-2/future-of-interconnection-and-call-termination> www.ofcom.org.uk

⁴<https://www.berec.europa.eu/en/all-documents/berec/reports/draft-berec-progress-report-on-managing-copper-network-switch-off> BEREC

Based Networks⁵,” which establishes IP-NNI as the long-term interconnect standard and provides guidance on POI redefinition and use of transitional gateways.

2. We have also already mentioned the GSMA’s efforts to provide a tool to facilitate the creation of IP-interconnection between parties. Further, we had proposed following interconnection model in our comments to the pre-CP, based on the global best practices and evolving technological and proposal for a model centralized IP based interconnection framework for Authority’s consideration. The details of which are provided in following paras.

a) Centralized POI – The interconnection will be migrated to flat architecture with one centralized connectivity supporting all type of traffic with following features.

- (i) POI will be established only once and there is no need for re-ATP with capacity addition at either side.
- (ii) No LSA based restriction for Offnet traffic handover between operators.
- (iii) Optimal capacity utilization and capacity addition can be managed in near real time.

b) 100 % IP based Interconnection –This will remove all challenges linked with legacy TDM interconnect and facilitate to introduce enhanced new services between operators.

c) Multi Path resiliency -4 regional Interconnect POP locations for IP Based Interconnection. Each POP location will have primary and secondary media path. This will enable multi path resiliency like data traffic interconnects.

- (i) All offnet outgoing traffic will be handed over to B Party operator (terminating network) at nearest IP POP location and further routing will be handled by terminating network. In case nearest path is down then remaining 3 paths can be used for traffic routing.
- (ii) SBC will be in pool and traffic distribution along with resiliency will be managed by respective operator.

[5https://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/Areas/Telecommunications/Companies/TelecomRegulation/IPinterconnection/KeyElementsId14810pdf.pdf?__blob=publicationFile&v=2&utm_source=chatgpt.com](https://www.bundesnetzagentur.de/SharedDocs/Downloads/EN/Areas/Telecommunications/Companies/TelecomRegulation/IPinterconnection/KeyElementsId14810pdf.pdf?__blob=publicationFile&v=2&utm_source=chatgpt.com)

- d) Emergency traffic handling** – All Emergency traffic in all states needs to migrate to PSAPs with redundant connectivity provided to all TSPs without any dependence on BSNL.
- e) Charges** – The TSP will be responsible to bear the infrastructure cost of its outgoing traffic till the POP and its incoming traffic from the POP and there will no other charges levied by one operator on another.

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

RJIL Response: None