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12 December 2016

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Telecom Regulatory Authority of India ("TRAI")
Mahanagar Doorsanchar Bhawan
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New Delhi 110002

Subject: Consultation Paper on "Review of the Regulatory Framework for Interconnection"

Dear Sir,

This is with reference to the above referred TRAI consultation no. 22/2016 dated 21.10.2016. In this regard, please find enclosed our response to the consultation paper as an annexure to this letter.

We hope that the TRAI will find our response useful and consider our inputs while finalising the recommendations on this subject.

Thanking you,

Yours sincerely,

For **Telenor (India) Communications Pvt. Limited**
(Erstwhile Telewings Communications Services Private Limited)

A handwritten signature in blue ink, appearing to read 'P. Sharma', with a blue horizontal line underneath it.

(Pankaj Sharma)
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Telenor (India) Response to TRAI Consultation Paper on Review of the Regulatory Framework for Interconnection (No.22/2016 dated 21 October'16)

1. Preamble

Telenor (India) welcomes this long awaited consultation to review the current regulatory framework for interconnection. In order to make it more effective the entire regime needs a relook for adherence to the **regulatory equality principles** of fair, reasonable, transparent, non-discriminatory and reciprocity. The regime should be equitable to all licensed service providers and establish a level playing field.

The Authority has rightly noted in para 1.3 that interconnection framework should be able to adapt to the changing circumstances, as outdated regulations run the risk of stifling market growth and innovation. It is equally important to closely monitor the implementation of interconnection regime and take regulatory actions as soon as the first signs of failure become visible.

Telenor (India) has made submissions vide our letters dated 10 June and 08 July 2015 and our response submitted to the pre-consultation dated 30 Oct 2015 highlighting various issues experienced while entering into interconnection agreements with incumbents. We had also shared a draft *Standard Interconnection Agreement (SIA)* on the similar lines as submitted by Joint Industry letter dated 10 May 2012.

It is a well established fact that **incumbents create entry barriers to market** by imposing unilateral costs and causing inordinate delays. These additional costs, some of which are borne in perpetuity by the new entrant (seeker of services) add to the cost of production. Thus creating a handicap to the disadvantage of new entrant and creates an **un-level playing field**.

As an example of **regulatory best practice**, the standard agreement for National roaming and International roaming is prescribed by GSMA and this is followed by all. There has been no litigation in the field of roaming; in contrast there has been numerous cases in the field of interconnection (standard agreement not prescribed).

Hence, we recommend that TRAI should publish a Standard Interconnection Agreement (SIA) after due consultation with all stakeholders to ensure level playing field and to bring to an end the issues regarding interconnection. This should be followed by enforcement of pre-defined KPIs and monitoring for distortions in the market.

Our present submission is an extension to our earlier submissions. We present our case in the following sections by highlighting the flaws in the present interconnection regime, issues due to lack of enforcement and suggest the methods for plugging these gaps and regular monitoring.

2. **Myth around RIO** – The RIO regulation prescribes that any service provider fulfilling the SMP criteria **should publish its standard agreement** with technical and commercial conditions including a basis for Interconnect Usage Charges for Origination, Transit and Termination. Following these, the new entrants can seek Interconnection and agree upon specific usage based charges.

Besides publishing its agreement there is no additional reporting requirement prescribed and in the absence of that, enforcement & monitoring is be difficult. The enforcement of RIO on SMP criteria itself has its shortcomings as rightly noted by the Authority in para 1.16 (ii). There is lack of clarity in the following conditions

- I. If both service providers happen to be SMP
- II. If both service providers happen to be non SMP
- III. Those TSPs who subsequently become SMP or cease to be SMP, or,
- IV. TSPs may have innovative revenue generation business models and may never breach the revenue criteria although they may carry large amounts of data traffic.

While signing the new Interconnect Agreements for our 6 operational service areas and also for new service area Assam, we observed that practically the RIO regulation is not applicable on any TSP.

3. **Indian telecom market is an Oligopoly** – The Indian telecom market has seen entry of players at different times in different band of spectrum using different technologies. This early entrant has an early mover advantage and they also hold positions in sub-GHz bands. There is no clear market leader with more than 30% of activity, so we do not have a monopoly (or SMP) with is characteristic in 3-4 player market. In contrast 3 incumbent players collectively hold >75% of the subscriber and revenue market share. So here we have an oligopoly situation which is generally found in multi-operator scenario like India.

We need an approach other than SMP and RIO, as applicable to the Indian Telecom market i.e. a standardized interconnect agreement (SIA) which is equitable to all licensed service providers.

4. **RIO Regulation lacks teeth** – The Authority has noted in para 1.16 (ii) that the RIO Regulation does not apply in majority of the cases (also refer Section 2 above). Same is our finding while practically signing the IC agreements. We have a regulation but is seldom used, rarely enforced and not practically applicable on any TSP. This calls for a change in regime as explained in section 5 below.
5. **Need for Standard Interconnection Agreement (SIA)** – The Authority has noted that interconnection agreements executed so far between TSPs have been finalised on the basis of mutual negotiations (para 1.16 (i)). These agreements amongst private TSPs by and large adhere to the RIO regulation (). We would like to submit that in response to the pre-consultation, vide our letter dated 30th Oct 2015, Telenor (India) has

submitted the complete **list of one-sided and unilateral clauses in the agreements signed** by us with private incumbents and PSU incumbent. **Even after 2 decades the issues of interconnection are not settled** (para 1.16 (i) and keep cropping up, resulting in litigation and valuable capital locked in disputes.

The Industry had written in the past on these issues and also submitted a standard agreement. It is well established that **a new entrant has no leverage for negotiation** and at the same time cannot approach the Regulator for a Determination as we have running business with other TSPs.

Hence, we recommend that a standard interconnection agreement (SIA) adhering to the regulatory equality principles should be prescribed.

Interconnection is a two-sided market, where every seller is a buyer also, hence charges for all elements of interconnection viz. ports, infrastructure, leased line, IUC for voice, SMS, signaling carriage charge, bank guarantee, insurance etc. should be regulated. The deviations (if any) in the finally executed agreements should be clearly noted in an Annexure and should be filed with TRAI.

6. **Enforcement of SIA regime** – There should be reporting requirements with pre-defined KPIs on timelines, capacity augmentation, traffic pattern, revenues collected under different heads of the IC agreement, quantum of disputes, aging of delayed payments. This should be published on a quarterly basis, so that the early signs of failure can be accessed by Authority.

Question wise Response

Q1. Which amongst the following is the best option to ensure fair, reasonable and non-discriminatory terms and conditions of interconnection agreement between telecom service providers (TSPs), in view of the technological, market, licensing, regulatory and legal developments in the telecommunication services sector in India since 2002?

- i. To amend the Telecommunication Interconnection (Reference Interconnection Offer) Regulation, 2002 taking into consideration the technological, market, licensing, regulatory and legal changes since the year 2002;
- ii. To prescribe a Standard Interconnection Agreement, which must be entered into between interconnecting TSPs, in case they are unable to mutually agree on terms and conditions of interconnection agreement between themselves in a specified time-frame;
- iii. To prescribe only the broad guidelines based on fair, reasonable and non-discriminatory principles and leave the details of the interconnection agreement to be mutually decided by the interconnecting TSPs in a time-bound manner; or
- iv. Any other method.

Please provide justification in support of your response.

Response:

- Interconnection is a two side market where every interconnection seeker is also an interconnection provider and vice versa. Interconnection agreement lays down the commercial and technical terms & conditions under which two service providers interconnect their networks so as to enable their consumers to have access to the network of other service provider. Therefore, it is essential that the terms & conditions of the interconnection agreement should be based on the **regulatory equality principles** of fair, reasonable, transparent, non-discriminatory and reciprocal. The charges should be well defined and governed by the regulation.
- **Option 1 – Amend the RIO Regulation 2002** - It has several shortcomings and has not served its intended purpose in the more than 1 decade of its existence. Some of the inadequacies and failures are listed below:
 - **Timelines for signing** of the Interconnect agreement is not defined and left open ended. Although TRAI has specified 90 days timeline as a outer limit in its direction of 07 June 2005 for providing interconnection, there is no specific timeline for signing the agreement itself. In reality the well entrenched incumbents both private and state owned delay the signing of the agreements which in Telenor (India) case is as high as 1 year 9 months.
 - **Timelines for augmentation** of POIs is not clearly defined. It is suggested that 90 days time period should continue for initial demand as per TRAI Direction and thereafter all demands for augmentation should be met on an ongoing basis within 7 days, unless there is a need for hardware upgrade, in that case the outer limit can be 30 days.
 - The RIO does not clearly define the **criteria for augmentation** of POI along with the threshold levels. It is suggested that the augmentation should be made on the basis of average peak traffic of last 15 days. The methods for projection of capacity for future demands should be defined, so as to avoid inflated demands.
 - In the recent ruling the Authority has clarified that augmentation between existing networks should be done much earlier than 90 days to maintain QoS. In the same spirit we request that the timelines for all stages of interconnection whether signing of agreement, initial demand, augmentation in live network, IUC bill payment, dispute settlement, change in Terms of agreement should all be defined with strict monitoring and enforcement.
 - **RIO Regulation not applicable** – In the context of Indian telecom market where there are 7 – 10 telecom providers having varied spectrum portfolio, none of the licensed telecom providers have assumed significant market position on a pan-India basis and hence RIO regulation was never applicable on any incumbent. This has also been our findings while signing the IC agreements. (ref Section 2 of Preamble)
 - **Definition of seeker and provider** – This was essentially defined in terms of Ports and keeping the state operator in context

The following clause of the Model RIO is fundamentally flawed, as it presumes that the new entrant will be able to negotiate with the incumbent. We explain below how the new entrant ends up signing the terms of the incumbent and is also not able to protest. The clause says that the incremental cost shall be borne

by both parties but it is silent on the **cost of capacity built in the initial 2 years**. The result of this flaw is that the new entrant ends up bearing this cost in perpetuity (explained in point above). The clause is also economically flawed as the new entrant will subsidize the cost of outgoing traffic of incumbent thus making an unlevel playing field. This is also against the work done principal.

Clause 12.3.2 of the Model RIO stipulates that *“Two years after the initial interconnection is established, the issue as to who bears the cost of additional resources required **shall be negotiated between the service providers**. The general principle followed in these negotiations is that each party should **bear the incremental costs** incurred for the additional ports required for meeting the QoS standards relating to its outgoing traffic to the other Party.”*

In the present agreements signed by us we are seeker in perpetuity with state operator. On the other hand the private incumbents force us to bear the cost of media for capacity built in the first 2 years both for outgoing and incoming in perpetuity. One private TSP imposes seeker costs in perpetuity for its outgoing NLD/ILD traffic. (ref our letter dt. 30.10.2015 in response to pre-CP)

- **RIO Guidelines lack enforcement** – The Authority has mentioned in para 1.16 (i) that ‘*All the interconnection agreements executed so far between TSPs have been finalised on the basis of mutual negotiations.*’ We explain in the section below that a new entrant is not in a position to negotiate with well entrenched incumbent.
- **Scope of negotiation** – a leeway was provided in the Model RIO for negotiation between the new entrant and incumbent under the following two categories:
 - Charges for Other Services where ever applicable (Schedule 2)
 - Charges for Sharing of Infrastructure Elements, where ever applicable (Schedule 3)

This has been exploited to the hilt by incumbent private service providers to impose one sided and restrictive clauses on new entrant having grave financial implications. These clauses were similar to the one sided conditions imposed by state operator and which were resisted by the very same private incumbents. It is well established that a new **entrant has no leverage for negotiation** and at the same time cannot approach the Regulator for Determination as we have running business with these TSPs.

- The RIO Regulation defines “Acceptance” means an acceptance of the terms and conditions contained in the RIO unconditionally. Thus making no distinction between unconditional or conditional acceptance.

For the reasons stated above, we recommend that RIO regulation should be phased out and replaced with a new SIA regime.

- **Option 2 – prescribe Standardized Interconnection Agreement (SIA)** – We have explained above that this issue has remained unsettled for more than a decade. We have also explained that there is no scope for negotiation between new entrant and incumbent (both state owned and private operators). Further we present the following in support of our argument for prescribing a SIA by TRAI.

Industry level Delay in signing of agreements with PSU incumbent – Various interconnect agreements have expired over the past 4 years, however as per our knowledge only Telenor (India) has signed the agreements.

	No of agreements expired	No of agreements signed
Auction 2012	19	6 in case of Telenor (India)*
Auction 2013	8	
Auction 2014	7	
Auction 2015	29	

** signed with delay and with unilateral clauses*

Telenor (India) specific Delay in signing of agreement with PSU and private incumbent – The table below clearly shows the delay in signing of agreements with private incumbents and PSU incumbent.

Sl. No.	Telecom Service Provider	Delay in number of days	
		Access - Access	Access – NLD/ILD
1	A	2 ½ months	2 ½ months
2	B	1 month	1 month
3	C	21 months	21 months
4	D	6 ½ months	6 ½ months

Unilateral clauses in the agreements signed by Telenor (India) – The agreements signed by Telenor (India) where we did not have any scope for negotiation had many unilateral, discriminatory and non-reciprocal clauses. The complete list of the same has been submitted to the Authority in our response to the pre-consultation dated 30 Oct 2015.

Hence, we recommend that Authority should prescribe a Standard Interconnection Agreement (SIA) and all expired and existing agreements should be migrated to this new regime. This is the most preferred way to establish level playing field for orderly growth of the telecom sector.

We present the following 2 examples of regulatory best practice of prescribing a standard agreement.

1. The national roaming and international roaming agreements are prescribed by GSMA and it is followed by all service providers. The commercials however are agreed separately. There has been no litigation in the field of roaming; in contrast there has been numerous cases in the field of interconnection (standard agreement not prescribed).
2. The national regulatory authorities in several geographies have issued their standard agreements or through the leading operator viz. IDA Singapore, FCC, OFCOM, Communication Commission Saudi Arabia, Pakistan Telecommunications Authority, Mynma Posts and Telecommunications, Omani Telecommunication regulatory Authority, BTRC. The list of such standard agreements (though not exhaustive) is enclosed towards the end of our response as Annexure – 1.

Hence, we strongly recommend that the TRAI should prescribe the Standardized Interconnection Agreement (SIA). All existing agreements be migrated to this regime, there should not be any scope for mutual negotiation and all charges along with timelines for every stage should be prescribed.

The standard agreement template has earlier been submitted as a Joint Industry submission vide letter no. JAC/2012/024 dated 10 May, 2012. We had also represented through the Joint Industry letter dated JAC/2015/038 dated 8 June 2015 and sought intervention of TRAI to end the era of discrimination and to establish level playing field, the agreements should be done on reciprocal basis. Telenor (India) had also submitted a draft agreement vide our letter dated 8 July 2015 for the Authorities consideration.

We submit that SIA may be published as a way forward for stable interconnection regime and end the long pending disputes. There may be a wider consultation with all stakeholders, however some of the basic principals should be:-

- The provision should be made in the SIA that for each service as a separate chapter similar to Unified License agreement so that whenever any service provider launch new service and wants interconnection with other Service providers, only that particular chapter can be signed as an addenda of existing standard interconnection agreement.
- All clauses of SIA should be pre-defined with fair, reasonable, non-discriminatory, transparent and reciprocal terms & conditions. This will eliminate the propensity of wrongful gains at the expense of new entrants. Authority should also ensure that in case of any deviation sought by any of the party, same should be duly approved by Authority through consultation.
- All charges should also be clearly prescribed in the SIA including the charges for signalling, national and international MMS, international incoming SMS and charges applicable for infrastructure (power, space incl, AC) which should be prescribed on cost basis. There **should not be any scope left for mutual negotiations for any element of interconnection** to avoid any disputes/ litigation/ additional costs.
- Timelines – This should be prescribed for every stage of interconnection with no scope of ambiguities to hide behind technically not feasible clause. SIA should be prescribed and enforced on ground with a timeline of 30 days for signing and another 30 days for commissioning of traffic.
- Financial clauses should include provision of bank guarantee (in case of default), this should be mutually applicable. Billing dispute resolution mechanism should not be one sided.

We request TRAI to consider our detailed response submitted on SIA and draft template shared with Authority through our earlier submissions.

- **Option 3 – prescribe only broad Guidelines** - We are not in favour of this option as interconnection agreements basis this option will not be governed by any regulatory framework and will not have a scope of mutual negotiations leads to disputes/ litigation/ additional costs ultimately impacting end consumers.
- **Option 4** - none

Q2. Whether existing interconnection agreements should also be allowed to be migrated to the new framework which will come out as a result of this consultation process?

Response:

Yes, all existing interconnection agreements should be migrated to new standard interconnection framework without any pre-conditions.

- There are many IC agreements which have expired in 2012, 2013, 2014, 2015 and these can be signed forthwith as per SIA, this has also been the Joint Industry request.
- The existing interconnection agreements has many non-reciprocal and discriminatory clauses and new entrants were forced to sign such agreements leading to grave financial loss, thus creating un-level playing field. This is also anti competition.
- These one-sided agreements were filed with the Authority and a summary was submitted in our response to the pre-consultation paper in Oct 2015.
- Telenor (India) had also requested to migrate existing interconnection agreements vide letters dated 10 Jun'15 and 08 Jul'15 for ensuring level playing field among all service providers.
- Needless to say the future agreements shall be based strictly on the new standard agreement with no deviations possible without approval from the Authority.

Q3. What should be the time-frame for entering into interconnection agreement when a new TSP with a valid telecom license places a request for interconnection to an existing TSP?

Response:

- This is primarily an issue arising due to lack of timelines provided in RIO regulation.
- The time-frame for entering into interconnection agreement for a new TSP having a valid telecom license and having established its network should be 30 days.
- The timelines should be prescribed for every stage of interconnection with no scope of ambiguities to hide behind technically not feasible clause - 30 days for signing and another 30 days for commissioning of traffic.
- New TSP to ensure that before seeking interconnection, its access/NLD/ILD network is be fully deployed/ operational and all necessary eligibility including testing, approvals, clearances, intimations to appropriate authority etc to launch the services have been completed.

Q4. Which details should a new TSP furnish while placing request for entering into interconnection agreement? Please provide detailed justification in support of your response.

Response:

- The TSP seeking interconnection should furnish the following documents/ information
 - First four pages of a valid telecom license
 - Type of service for which interconnection is needed
 - Network architecture and other relevant technical details
 - Location(s) of interconnection
 - Projection of capacity / demand required for budgetary purposes
 - Undertaking that the network has been deployed and all necessary eligibility including testing, approvals, clearances, intimations to appropriate authority etc to launch the services are completed.
 - Likely timelines for getting approval of launch of service from DOT
 - Initial demand of ports for testing and firm demand of ports required at the time of launch and projection for next 30-45 days.
 - Thereafter any request for augmentation should be based on traffic justification to be provided on an on-going basis.

- The timelines for commercial launch of service is sought to avoid idling of resources.

Q5. Should an interconnection agreement between TSPs continue to operate if an interconnecting TSP acquires a new license upon expiry of an old license? Alternatively, should fresh agreements be entered into upon specific request of either party to the interconnection?

Response:

- This issue is fallout of non-enforcement of RIO / non availability of SIA which needs to be addressed. This situation will not arise if an SIA is prescribed for all TSPs.
- If an interconnecting TSP acquires a new license upon expiry of an old license then he should enter into a fresh agreement.
- Requesting TSP should send a request letter along with a copy of new license to other service providers. New standard interconnection agreement should be signed within 30 days.
- The legacy interconnect agreement regime have come a full circle as the licenses have completed their initial term of 20 years starting Nov 2014, Dec 2015, Mar 2016 and so on in a cyclic fashion. The existing interconnect agreements have expired for expiry licensees in Metro and new interconnect agreements have to be signed. More Interconnect agreements will expire along with the license in coming years.
- **This is the apt time to prescribe a SIA for the industry** to adopt albeit after broad discussion with all licensed service providers.

- In the past TRAI had instructed BSNL to sign a fresh interconnection agreement with M/s Idea Cellular, M/s Sietema Shyam Teleservices, M/s Videocon Telecommunications without treating them a new TSP and without levying provisioning charges afresh vide TRAI letter of Oct'14. BSNL was also instructed to comply with the timelines for MSC code opening in case of M/s Telenor (India) vide TRAI letter dated 13 Jan'14.

Q6. Whether it is appropriate to mandate only those TSPs who hold significant market power (SMP) in a licensed service area to publish their Reference Interconnect Offers (RIOs)? If yes, what should be the criteria for reckoning a TSP as SMP? If no, what could be the other approaches to streamline the process of interconnection in a fair, reasonable and non discriminatory manner?

Response:

- As mentioned in the response to Q1, none of the licensed telecom providers have assumed significant market position and hence RIO regulation was never applicable on any incumbent
- We have an oligopoly situation in Indian Telecom market (section 3 of Preamble)
- We need an approach other than SMP and RIO, as applicable to the Indian Telecom market i.e. a standardized interconnect agreement (SIA) which is equitable to all licensed service providers.
- Hence, we recommend that all providers should follow the SIA prescribed by TRAI.

Q7. Whether there is a need to continue with the present concept of interconnection seeker/ interconnection provider? If yes, what should be the criteria?

Response:

- Yes, there is a need to continue with the present concept of interconnection seeker/ interconnection provider but not in the present structure. This is explained in detail in our response to Q1.
- The following clause imposes adverse economic impact on the seeker, it covers only the incremental cost. It is silent on the cost of media, ports, infrastructure built during the initial 2 years. The end effect of mutual negotiation is that the new entrant continues to bear this cost of 'capacity built in 2 years' in perpetuity. This includes outgoing and incoming traffic, making his cost of services higher.

Clause 12.3.2 of the Model RIO stipulates that *“Two years after the initial interconnection is established, the issue as to who bears the cost of additional resources required **shall be negotiated between the service providers**. The general principle followed in these negotiations is that each party should **bear the***

incremental costs incurred for the additional ports required for meeting the QoS standards relating to its outgoing traffic to the other Party.”

- We suggest the following improvement in criteria for seeker to plug the loopholes –
 - A new entrant maybe liable to pay seeker charges for ports for the first two years from the date of launch of commercial traffic in a circle. But there should not be any **rolling two year seeker clause**.
 - After two years, each party should bear the cost of its outgoing traffic including the capacity built in first two years; this includes the cost of interlinking media. In the existing agreements, the seeker charges with private incumbent operators are so framed that a new entrant continues to bear the cost of media for the capacity built during the first 2 years in perpetuity for outgoing and incoming traffic.
 - The present agreement with incumbent PSU operator imposes seeker in perpetuity till the end of license, this should be done away with.
 - There should be no clause for seeker in perpetuity. One dominant private TSP has imposed seeker charges for outgoing NLD/ ILD traffic into access network. Access network has to pay setup cost and bear media charges in perpetuity for incoming NLD/ILD traffic.

Q8. Whether there is any need to review the level of interconnection as mentioned in the Guidelines annexed to the Telecommunication Interconnection (Reference Interconnection Offer) Regulation, 2002? If yes, please suggest changes along with justification.

Response:

- Any interconnecting party should not deny interconnection and increase the cost of interconnection.

Q9. In case interconnection for Inter-circle calls to fixed-line network continues to remain at Short Distance Charging Area (SDCA), should alternate level of interconnection be specified in cases of technical non-feasibility (TNF) at SDCA level?

Response:

- In case the interconnection provider is unable to provide capacity at level 3, then it should allow interconnection at level 2 without any additional carriage. As the non-feasibility is given by provider of services.

Q10. What should be the framework to ensure timely provisioning/ augmentation of E1 ports? Please provide full framework with timelines including the following aspects:

- a. Minimum number of E1 ports for start of service;
- b. Maximum time period for issuance of demand note by the interconnection provider;

- c. Maximum time period for payment for demanded E1 ports by the interconnection seeker;
- d. Intimation of provisioning of requested E1 ports by interconnection provider;
- e. Space allocation for collocation of transmission equipment;
- f. Maximum time period for establishment of transmission links by the interconnection seeker;
- g. Maximum time period for acceptance testing;
- h. Maximum time period for issuance of final commissioning letter by the interconnection provider; and
- i. Maximum time period for start of traffic in the POI after provisioning/augmentation of E1 ports for which payment has already been made.

Response:

- The criteria for augmentation of POI should be clearly defined and closely monitored for compliance in Access as well as NLD/ILD.
- The entire process of providing and commissioning of ports can be completed in 30 days for initial demand and 7 days thereafter. In case there is a hardware upgrade or need for media built up then the outer limit should be 30 days.
- Spare media can be built in advance and tested so that only the ports are approved and commissioned.
- The major issue is if all the charges involved are defined and are reciprocal, the other factors for delay can be overcome.

Q11. Whether augmentation of ports be allowed at higher levels such as STM-1 in place of E1?

Response:

Yes, augmentation of ports is already allowed at higher levels. However, port charges for STM-1 and STM-4 should to be defined. These charges for higher levels will be much less and it **cannot** be a numerical multiplication of port charges for 1 E1.

Q12. What should be the criteria to ensure that inflated demand for ports is not made by interconnection seeker?

Response:

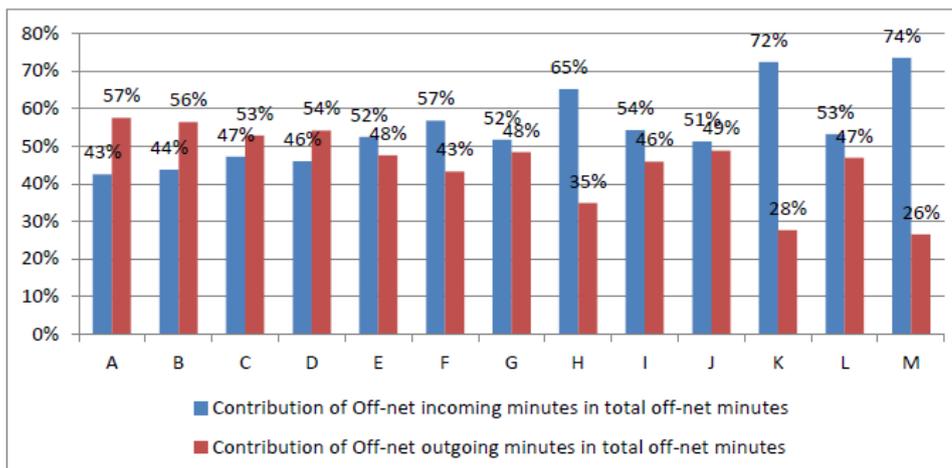
- Interconnection seeker should share the traffic report on regular basis.
- Initially at the time of launch, 30-45 days demand projection can be shared and thereafter ports should be allocated on the basis of traffic.
- If there is no traffic justification for 4 weeks, the un-utilised ports should be decommissioned.

Q13. In case the interconnection seeker agrees to bear the total cost of equipment required for augmentation in advance, should the interconnection provider give the requested ports irrespective of volume of traffic at POI?

Response:

- No. all demanded ports cannot be given without analysing the traffic even if interconnection seeker is ready to bear the total cost of equipment required for augmentation well in advance.
- It is to be noted that Network of interconnection provider has been designed based on an Industry pattern of calls, sms, other services.
- Any skew in the traffic pattern should be a matter of concern not only for the provider but also for the Regulator and appropriate regulatory actions should be taken. For example the pattern of inter-network voice traffic is as below, it cannot be any different for any new entrant, else it is a cause of alarm.
- Such signs of skewed traffic pattern, calls for Regulatory course correction.

Figure 1: Distribution of off-net minutes in the F.Y. 2013-14 for the access providers offering full mobility services



Q14. Should separate time periods for provisioning of ports be prescribed for (i) fixed-line networks and (ii) mobile/ IP networks?

Response:

- No separate time period is required for provisioning of ports for fixed networks and mobile/IP networks.
- The regulations should be technology agnostic.

Q15. Whether financial disincentive should be imposed on TSPs for-

- (a) not entering into interconnection agreement within a stipulated timeframe;
- (b) not providing initial POI;
- (c) not augmenting POI within stipulated timeframe;
- (d) for violation of any clause prescribed in the regulations.

If yes, what should be the amount of such financial disincentives?

Response:

- No, financial disincentive imposed on TSPs will not resolve the issue.
- It is more an **issue of enforceability** which is to be resolved. This will address all other related issues. Moreover, no financial disincentive will substitute of creating entry barrier.

Q16. Whether there is a need to have bank guarantee in the interconnection agreement? If yes, what should be the basis for the determining the amount of the bank guarantee?

Response:

The requirement of securitization of receivable is required only in the following 2 conditions:

- Terminating traffic – in case any party is using the POIs for only terminating traffic and is net payable position at all times. This will essentially be in the case of standalone NLD or ILD operator, then the net receivable for preceding 3 months should be securitized by a bank guarantee.
- Default in payment – in case any party defaults in payment by more than 10 days for 3 months in the year, then that party should securitize the net receivable for the preceding 3 months. In case the default is in 3 consecutive months, then this condition may trigger immediately without waiting for the full year to complete.
- This condition should be applicable on reciprocal basis.

Q17. What should be the method to settle Interconnection Usage Charges and how should the delayed payment between TSPs be handled?

Response:

- Settlement between both parties should be gross basis, this is for ease of documentation for pass through charges deduction claims.
- The practice that is followed is that the first party who is in net payable position makes the payment first to other party and then gross receivable amount is settled by the other party within 1 or 2 working day. In case of delay Interest charges apply but is seldom enforced amongst private operators. All the payment should be settled within the calendar month.
- In order to unlock capital stuck due to delayed payments / disputes, a Quarterly report may be sought on the aging of bad debts and amount held in disputes. This can be published as a health check of the sector.

Q18. Whether interconnection and interconnection agreement should be service-specific or service-agnostic (i.e. a TSP can send any type of traffic on a point of interconnection

which is allowed under the terms and conditions of the license given to it)? What are the advantages/ disadvantages of having service specific POIs when the TSPs are equipped with call data record (CDR) based billing systems?

Q19. If POIs are merged together, what methods of discovery, prevention and penalization of any traffic manipulation by TSPs (whereby higher IUC traffic is recorded as lower IUC traffic in the CDR of the originating TSP) should be put in place?

Response:

- Interconnection should be service specific, we had submitted in response to Q1, that the SIA should be structured on the lines of Unified License. Each TSP should sign the specific chapter of SIA for the type of service that he wants to interconnect with the other TSP.
- POIs should be segregated on the type of traffic, and the IUC tariff for the trunk group should be a demarcation factor. The secondary methods of checking is available, but TGs form the first line of segregation.
- If the POI are merged, the chances of dispute are higher as illustrated with example,
 - a) ILD in NLD POI – Some operators push the ILD traffic in NLD, we are able to identify the ILD calls based on the A number and bill at a higher rate. But the operator can come back and dispute, with claim that these are their international in-roamers calls to Telenor. This can be very difficult to identify such cases as there is no visibility to terminating operator the origin of such calls.
 - b) Landline and Mobile – In case where the TG is merged between landline and mobile(FWP), it creates confusion of some level in some cities of some operators. Current method is to a CDR level reconciliation and identify the mismatch of code list of wrong configuration and update. This issue is always there and disputes go for a long periods for certain levels.
- Since the terminating (billing operators) has no clarity on the origination of the calls in the merged POI, we prefer to have the TGs separate and avoid disputes.

Q20. Which policy and regulatory measures are required to be taken to encourage TSPs to migrate to Interconnection at IP level? What should be the terms and conditions for inter-connection at IP level?

Response:

- The present license condition facilitates both TDM and IP interconnects. All inter operator interconnects are presently working on circuit switched technology.
- We support TRAI to facilitate licensees to interconnect over IP based networks or any other emerging / latest technology. However, there should not be any mandate for IP based interconnection as migration to higher technology is a business decision.

- There should not be any mandate to migrate existing interconnection arrangements to the new IP based regime; rather it should be driven by technological advances.
- Thus TDM and IP based interconnection should co-exist within the overall regulatory framework of interconnection.

Q21. Whether there is a need to establish a framework for Interconnect Exchange to eliminate bilateral interconnection issues?

Response:

- TSPs have already established direct connectivity and these peer to peer connection give cushion against a single point failure of an exchange. Presently there is no need for an interconnect exchange looking at the additional costs.
- The solution to eliminate bilateral interconnection issues is to prescribe a standard interconnection agreement (SIA) and it should be mandatorily followed by ALL.

Q22. Is there any need for a separate framework for Interconnect Exchanges in view of the fact that the new NLDO authorization permits transit traffic to be carried over by NLDO?

Response:

No separate framework is required for transit traffic. It should be driven purely on mutual basis as provided in the license.

Q23. Whether access providers should be allowed to transit intra-circle calls?

Response:

No, Access providers should not be allowed to transit intra-circle calls. Exceptions can be provided in case of network failure and ensuing emergency.

Q24. Under what circumstances, a TSP can disconnect POIs? What procedure should be followed before disconnection of POI?

Response:

- The mandatory nature of interconnects is mandated in the License, it further prescribes that the POIs should continue to be connected. This is taken advantage of by certain TSPs by delaying IUC payments for which they have already collected the usage charge from their customers. On the other hand certain TSPs recover the amount under dispute with a threat to disconnect POIs. This has also been mentioned by the Authority in this paper.
- We suggest that a TSP can disconnect POIs in any / combination of below situations after expiry of agreed notice period –
 - If there is any violation of any terms & condition of the agreement (SIA)

- In case the other party fails to make payment for at least three consecutive months
- If any illegal activity is found to be carried out by the other party using resources by first party
- If other party ceases to hold a valid telecom license
- If other party is adjudged bankrupt or insolvent or voluntary winding up the business
- If the other Party commits fraud which is referable or relevant to the Agreement (SIA)
- In case of any breach of any confidentiality provisions. This can be more specific with respect to type of confidential information shared with other TSP.

Q25. Is there a need to have a coordination committee to facilitate effective and expeditious interconnection between TSPs? If yes, who should be the members of the coordination committee? What should be the overall operating framework for the committee?

Response:

- There should be prescribed KPIs for reporting. These can be defined on the timelines, financials like aging of IUC payments and amount under dispute, traffic parameters etc.
- This should be published by TRAI on a quarterly basis.
- In case of any signs of market failure or abnormal traffic pattern, TRAI may call for a meeting of relevant stakeholders. (ref our response to Q13)

Q26. Is there any other relevant issue which should be considered in the present consultation on the review of regulatory framework for Interconnection?

Response: none

Annexure – I

List of RIOs (though not exhaustive) prescribed by various Regulators

S.No.	RIO - Name of the Country (Operator)	Summary	Web link
01	RIO Singapore (SingTel)	Singapore Telecommunications Limited's ("SingTel") RIO sets out Infocomm Development Authority (IDA) (regulator) approved prices, terms and conditions for other telecoms operators to interconnect and access SingTel's network to provide its own services to the Singapore market. The IDA RIO is very comprehensive and contains a complete written statement of the prices, terms and conditions on which SingTel is prepared to provide interconnection related services to any requesting licensee.	https://www.ida.gov.sg/Policies-and-Regulations/Regulations/Store/SingTels-Reference-Interconnection-Offer-2012
02	Electronic Code of Federal Regulation (FCC) on Interconnection	This code is binding incumbent Local Exchange Carrier (LEC) to have interconnection agreement with other LECs on the terms & conditions along with the charges specified by FCC.	http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=ff4552072702f5bac2f4c246aa4233a3&mc=true&n=pt47.3.51&r=PART&ty=HTML#sp47.3.51.a
03	RIO UK (British Telecom)	This is a standard Interconnect Agreement published by British Telecom (BT) under the directions of OFCOM. In case of any changes required in agreement which will have material impact on other party, <u>such changes can be carried out by BT only after industry consultation.</u>	https://www.btwholesale.com/pages/static/help-and-support/regulatory.htm
04	RIO Saudi Arabia (Saudi Telecom)	Being a dominant service provider, Saudi Telecom has published this RIO under the guidance of Communication Commission. This RIO provides a set of standard technical and commercial terms for interconnection agreement with any requesting other licensed operator.	http://www.citc.gov.sa/English/RulesandSystems/RegulatoryDocuments/Interconnection/Pages/CITC_ReferenceInterconnectionOfferRIO.aspx
05	RIO Luxembourg (Orange Luxembourg Communications S.A.)	This RIO has been published by Orange Luxembourg for consultation basis the guidelines specified by Institut Luxembourgeois de Régulation (ILR).	https://www.orange.lu/sites/orangelu/files/OrangeLu/PDF%20fiches%20signal%C3%A9tiques/rio_fm_orange.pdf

06	RIO Pakistan (Pak Telecom)	Pak Telecom has published RIO offering Interconnection to other Cellular Mobile Operators in line with the terms & conditions including charges specified in line with Pakistan Telecommunications Authority guidelines / rules.	http://www.pta.gov.pk/index.php?option=com_content&task=view&id=1196&Itemid=610
07	RIO Myammar (Mynma Posts and Telecommunic ations) (MPT) (August'15)	This RIO lists and describes the individual Services that MPT is willing to provide to the Requesting Licensee, and that MPT expects to receive from the Requesting Licensee on equal terms and conditions basis specified charges.	http://www.mpt.com.mm/my/wp-content/uploads/2015/08/MPT-RIO_Main-Body-final-approved-version.pdf
08	RIO Oman (Oman Mobile)	The Oman Mobile has published Draft RIO which is being used for Interconnection with other operators subject to the approval from Omani Telecommunication regulatory Authority.	http://www.omantel.om/OmanWebLib/Business/Wholesale/OmanMobileRIO.aspx?linkid=2&menuid=602
09	Bangladesh Telecommunic ation Regulatory Commission (BTRC) Interconnectio n rules 2004	This document mandates the Interconnection Exchange (ICX) operators, International gateway operators (IGW) and the Internet exchange operators (IX) to publish RIO for interconnection with other operators clearly mentioning all T&C and charges. <u>These rules mention Commission intervention for negotiation on Interconnection agreements to resolve the issues</u> , if no agreement is bought between parties within 3 months basis request of any party.	http://www.btrc.gov.bd/sites/default/files/interconnection_regulations_2004.pdf