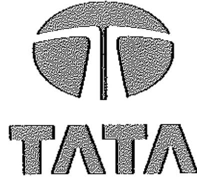

TCL/RA/TRAI-CP/2011/5

May 18, 2011

Advisor (I&FN)
Telecom Regulatory Authority of India,
Mahanagar Doorsanchar Bhawan,
Jawahar Lal Nehru Marg,
New Delhi – 110002

Sub: **Response to the Consultation Paper on Review of Interconnection Usage Charges dated 27.04.2011.**

Ref: **TRAI letter No.409-9/2010-I&FN dated 27.4.11**

Dear Sir,

Kindly find enclosed herewith the Tata Communications Ltd. response on the Consultation Paper on Review of Interconnection Usage Charges for your consideration and perusal please.

With kind regards,
For Tata Communications Ltd.

(Praveen Sharma)
Head – Corporate Regulatory

Encl: a/a.

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TCL Response to Consultation Paper on Review of Interconnection Usage Charges

Tata Communications believes that the IUC regime has been a major factor in developing a working commercial model to address various issues in a multi-operator multi network environment. There have been different contexts for the Authority and the industry since the inception of the regime starting from managing the access deficit for providing universal services to the incumbent service providers to creating a free and fair competitive scenario.

At the time of issuance of the first IUC regime in Jan 2003 the need was to specify an IUC regime which gave greater certainty to the Inter-operator settlements and facilitates interconnection agreements. Thus cost based Interconnection Usage Charges (IUC) for origination; transit and termination in a Multi-Operator environment as the need of the day. We would like to commend the approach adopted by the Authority since the inception of the regulation which has resulted in a generating a fair and sustainable business environment in the Telecom Industry.

The adequacy of the principles of the IUC Regulations is demonstrated by the stupendous growth observed in the Indian Telecom Market as indicated by the Authority in this Consultation Paper. Some key metrics need to be kept in mind while the IUC Regulations are being reviewed is the developments in the Market scenario vis-à-vis the market scenario that prevailed at the time when the first IUC regulation was implemented.

As indicated by the Authority in the Para 1.2 of this consultation paper, while at the inception of the regulation the telecom subscriber base was 53.9 Mn, by Feb 2011 it has increased to 826 Million with the wireless growth contributing almost 73.6% growth/annum since year 2000. In this period the industry revenues have tripled from $ 10 Billion to $ 30 Billion with a CAGR of 16%. However, it is also a fact that the growth rate of revenues has significantly come down in the last year due to the competitive tariffs being offered by every telecom operator to the benefit of the Indian Consumer.

Keeping in view the development witnessed in the Indian Telecom Market and the challenges the industry faces today, the following aspects become extremely pertinent to consider while reviewing the IUC Regulations:

- Priority to provide affordable communications to the Indian Masses
- Need to provide a fair & equitable interconnection regime
- Need to ensure healthy competition between different operators and also the sustenance of competing operators in order to ensure sustained growth in a non- monopolistic environment
- Be proactive and flexible to assimilate future growth scenarios and technological advancement
- Need to avoid a situation of vertical squeeze by any of the vertically integrated operators and provide level playing field to all operators including standalone operators

The current review of the IUC regime must focus on all these aspects to arrive at a fair, sustainable and growth oriented regime which provides the required impetus for further growth of telecom services.

Keeping in view the above we would like to submit our response to the various questions raised in this Consultation.

1. **Do you agree that the IUC regime determined through this consultative process should be applicable for 3 years? If not please indicate your preferred time period with justification**.

   TCL Response:

   The IUC regime once determined should be applicable for a period of 2 years. Interconnection Usage Charges (IUC) and Access Deficit Charges (ADC) regimes were established by the TRAI through "The Telecommunication Interconnection Usage Charges Regulation 2003" (1 of 2003) dated the 24th January 2003. This regime came into effect from 01.05.2003. The above regime was reviewed and the revised IUC and ADC regime was notified through "The Telecommunication Interconnection Usage Charges Regulation, 2003" (4 of 2003) dated 29.10.2003 which superseded the earlier Regulations referred above and became effective from the 01.02.2004. This then became the principal regulation that was amended from time to time within the established framework. Further amendments to "The Telecommunication Interconnection Usage Charges Regulation" were carried out annually up to the year 2007 which came into effect respectively on 1.2.2005, 1.3.2006 and 1.4.2007. The last review of the IUC was done in the year 2009 and the 2009 IUC Regulation came into force w.e.f. 01.04.2009. Thus the IUC regime has been reviewed on an annual basis from its promulgation in the year 2003 up to 2007 wherein after the next review was undertaken with a gap of 2 years.

   It may be noted that the Authority has mentioned in this Consultation Paper in Para 1.16: "*Though IUC prescribes the wholesale inter-operator tariff and not directly the retail tariff for customers yet it has bearing on the retail tariff as well. Timely review of IUC regime is important to align charges with current cost of telecom network and Minutes of Usage. Alignment of interconnection usage charges with current cost allows service providers to offer innovative tariff plans to consumers.*"

   As we have observed both the costs of running the network and the minutes of usage have been significantly impacted year on year, it is felt that the period of 2 years applicability provides reasonable regulatory certainty and also gives the scope for the review of IUC in the fast changing Telecom Services sector so that the interest of consumers as well as Service Providers are appropriately protected.

2. **Keeping in view the time period indicated by you in question 1, which of the following approaches would be most appropriate for the Indian telecom sector?**
   (a) Cost oriented or cost based;
   (b) Bill and Keep;
   Please provide justification in support of your answer. In case you feel that the approach should vary according to service, please explain why?

   TCL Response:

   According to us the cost based approach should be followed for computation of IUC.

   Provision of telecom services to an end consumer in a multi-operator environment involves usage of different network components which are not necessarily owned by ONE operator. A call made by a consumer traverses different networks and the quality of service for the consumer is dependent upon all these networks as well as management of service by the operators involved in carriage of a call. An IUC regime that provides for Cost Based interconnection charges to be paid to all operators involved in the carriage of a call is fair and equitable. The cost based methodology is economically efficient and takes care of the consumer interest as well as Service Provider interest. A cost based IUC regime ensures sustainable growth by providing confidence to all operators that their return on investments would be on a "work done" principle as opposed to some arbitrary regime that works to the advantage of select operators, either new entrants or older or dominant players. Such a regime is in consumer interest with all operators jointly contributing to growth of the industry in a fair, equitable and competitive market environment.

   We would like to draw attention to the underlying principles of the earlier Interconnect Usage Charges regulations which have been widely accepted by all service providers in the past and which have evidently facilitated free and fair competition in the Indian Telecom Market and growth since the inception of the IUC regime.

   The Framework for interconnection usage charges have been based on the principle of "work done", wherein cost of each un-bundled network element used for carriage of calls was considered for arriving at the applicable Interconnection Usage costs and accordingly sharing of such costs between operators involved in carriage of the calls.

   Evidently, the focus of this review should also be to provide a regime which compensates the concerned service providers for all resources utilized for providing an interconnection service.

   The cost based methodology is the singular approach which provides fair principle to allocate compensations towards the costs incurred by each service provider and also more accurately reflects the underlying cost for providing Interconnection services. The cost based approach is more transparent and flexible and is amenable to periodic reviews based on traffic and cost matrix. The cost based methodology is economically efficient and takes care of the consumer interest as well as Service Provider interest. With the cost

based termination charge, the situation of asymmetric traffic exchange between the interconnecting Service Providers would be taken care in the most efficient manner.

The cost based IUC has the following advantages which have been highlighted in earlier IUC regulations and has met the desired objectives as is evident from the Telecom growth since the time of implementation of IUC regime:

- Enables affordable communications to the Indian Masses
- Enables fair and equitable interconnection regime
- Facilitates sustenance of all competing operators to ensure sufficient level of competition and avoid monopolistic situation in the telecom market
- Is proactive and flexible to assimilate future growth scenarios and technological advancement
- Avoids situation of vertical squeeze by any of the vertically integrated operators and provide level playing field to all operators including the standalone players.

3. In case your answer to question 2 above favours the cost oriented approach, would it be appropriate to permit Bill and Keep between service providers who have symmetric traffic?

TCL Response:

Bill and Keep approach is not fair and equitable for the service providers in a multi-operator environment unless the service providers have symmetric traffic AND the advantages of such a Regime far out-weigh the challenges of implementing a more objective, just and equitable Cost-Based IUC regime. The IUC regimes since 2003 have not only been implemented successfully but have also met the desired objectives of ensuring a fair return for the service providers based on a "work done" principle. There is no case at this stage for implementation of Bill & Keep even between select service providers who may have symmetric traffic at a given time. This may only give rise to lack of certainty between service providers with respect to their costs and is likely to trigger disputes between Service Providers.

Bill and Keep approach for services even between service-providers having symmetric traffic presents a situation which may lead to discrepancy in the overall market regime. Bill and Keep obviously cannot work in case of asymmetric traffic distribution hence to avoid situations of enabling preferential market strengths to select set of operator and skewing the competitiveness in the market it is not recommended to adopt a Bill and Keep approach even for service providers having symmetric traffic.

4. **If the cost-oriented or cost based approach is used for Interconnection Usage Charges, do you agree that fully allocated cost can be used with historical cost data submitted by various service providers in their audited Accounting Separation reports, published documents or any other information submitted to TRAI? If not, please give your alternate solution with explanation, required data and proper justification.**

   TCL Response:

   The Framework for interconnection usage charges must be based on the principle of "work done", wherein cost of each un-bundled network element used for carriage of calls is considered for arriving at the applicable Interconnection Usage costs and sharing of such costs between operators involved in carriage of the calls. This Framework was rightly adopted in the Regulation on Reference Interconnect Offer (RIO) and consistently adopted since the first IUC Regulation dated 24th Jan 2003.

   In this context we would like to reproduce the observations made by the Authority in IUC Regulation dated 24th Jan 2003:

   "IUC has to be determined based on minutes of usage for various Unbundled Network Elements and the cost of these elements. As brought out in the Reference Interconnect Offer (RIO), the IUCs for Origination, Transit and Termination are based on the principles of element based charging i.e. one operator charging the other for the resources consumed for carriage of its calls in terms of minutes of use (MOU)."

   While the framework adopted for determining the Interconnect Usage Charges since IUC Regulation dated 24th Jan 2003 is fair and equitable, there is a need for comprehensive review of the calculation of Interconnection Usage Charges since the Costs have not been reviewed by the Authority since the year 2003.

   The Costs considered at the time of IUC Regulation dated 24th Jan 2003 were largely based on the Balance Sheet (Year 2001-02) of BSNL, the main significant operator at that time. Using this Top down approach together with certain other information provided by BSNL, the Authority considered the Capex, Depreciation and Opex costs of BSNL and allocated it to different parts of the network in the same ratio as BSNL had done in its RIO. The data of MOUs was then considered to arrive at a Cost Per Minute for various unbundled Network elements.

   It is important to note that BSNL provided Basic and NLD services covering about 38 million subscribers through Basic Service Network at that time and the private sector operators were yet to roll out services completely. The consumer base of Cellular Mobile operators in March 2003 was only 13 million subscribers. Taking both the Origination and Termination amount to be equal, the Authority calculated the total per minute charge that covered BSNL costs and provided for ADC. Both Origination and Termination IUCs were computed to be identical assuming near-end handover in the LDCA in which the call originated and a far-end handover in the destination LDCA. As for the Mobile

Termination Charges (MTC), the Authority arrived at a cost of termination for cellular mobile as Rs.0.30 per minute in Cellular Metro and Rs.0.40 per min in Circle areas. These Costs were based on Opex data of 25 Circle/Metro Cellular Operators from their audited annual reports.

Evidently, there is a sea change in the telecom market since that time and the calculation of IUC requires a comprehensive review of IUC that meets the requirements of today as well as future developments.

While the change in Carriage Charges in the 23rd February, 2006 review provided a strong basis to the operators to reduce their long distance tariffs as well as pave the way towards more and more usage of the Long Distance Networks, the Mobile and Fixed termination charges were left unchanged till the review of termination charges in March 2009.

As noted by the Authority in IUC Regulation dated 23rd February, 2006 " *Due to increased volume of traffic, it is likely that the termination charges especially for mobile services may come down. The Authority has also estimated and found that mobile termination charges as well as fixed termination charges could be lower than the specified level of Rs.0.30 paise per minute. Inspite of this the Authority did not reduce the mobile termination charges and fixed termination charges……The Authority expects that Mobile Service Providers would increase their penetration into rural and remote areas and the Authority would continue to monitor their progress in this regard"*

The Authority finally reviewed the termination charges only in IUC Regulation dated 9th March, 2009. The estimation of costs based on the data available at that time needs to be reviewed again in light of current data.

As also noted by the Authority in IUC Regulation dated 29th October, 2003, for costing purposes, several countries have used Forward Looking Long Run Incremental Costs (FLLRIC) instead of Historical Average Costs that were considered in the earlier Regulation dated 24th January, 2003. In fact, the Authority also noted in the IUC regulation dated 29th October, 2003 that

"the difference between Historical Costs and Forward Looking Costs would be large and relying on costs based on modern and forward looking technologies would imply a large burden from the stranded costs for BSNL. While the Authority feels that change over to FLLRIC model is imperative, it examined the implications of a sudden changeover against a gradual changeover……..In short, the approach is to achieve full shift to FLLRIC Cost in a gradual manner over a few years rather than a single year change"

We had suggested in our Response to the Pre-Consultation Paper on Review of Interconnection Usage Charges dated 24th Dec'2010, that the Authority should adopt the FLLRIC model for review of the IUC components, however, it has been observed in all previous Consultations on review of the IUC regulations that

a. The stakeholders are not united in their views on the methodology to be adopted for reviewing the IUC, i.e, whether FLLRIC, Bill and Keep or Fully Allocated Costs.
b. None of the operators has argued against the fundamental principle of IUC being based on "work-done" principle.

Thus, till the Authority is eventually in a position to adopt FLLRIC model for review of all components of IUC in a transparent manner, the Cost-based approach taken since the inception of the first IUC Regulation (effective 1st May 2003) may be continued, the fully allocated costs can be used with historical cost data submitted by various service providers in their audited Accounting Separation reports, published documents or any other information submitted to TRAI.

It is important that the Authority does not only review the methodology for fixing the IUC but also reviews the IUC components themselves.

At this point of time it may be relevant to note that there is a strong case for considering International Carriage & switching by ILDOs as a component of IUC. In this context it is pertinent to look at network and infrastructure that the ILDOs need for ensuring ILD call completion and devise suitable mechanism in the Regulations for compensating the cost being incurred by the ILDOs.

5. Should CAPEX be included in calculating/ estimating termination charge? If so, which network elements from the ASR data should be included in the cost base?

TCL Response:

CAPEX should not be included in calculating the termination charges. Right from 1999 when the TTO was issued with cost based tariffs for mobile services, CAPEX has never been a consideration for termination charges or usage charges. Although the tariff for Mobile services is now forborne, it has been the consistent and efficient practice of TRAI not to include CAPEX in computation of termination charges. If CAPEX is allowed to be included in calculating the termination charges, due to varying CAPEX by various Service Providers, the termination charge would become Service Provider specific and would result in an inefficient IUC regime with Service Provider having a lower CAPEX paying for the CAPEX of other Service Provider having higher CAPEX. If CAPEX is also allowed to be recovered through the termination charge, then the termination charge would widely vary among service providers since some of the service providers may have invested more in CAPEX keeping in view their future business plans and this cost would then be transferred to the interconnecting operator. The Authority should consistently continue the approach of only considering Opex for determining the termination charges.

6. **Do you agree that with inclusion of CAPEX in the calculation of termination charges, rental/ administrative or any other fixed charge component should be removed from the retail tariff by regulatory intervention? If not, please give reasons.**

   TCL Response:

   Not applicable in view of answer to Q5 above.

   All retail tariffs have hitherto before been launched by Service Providers based on the IUC regimes that indicated forbearance with respect to Origination Charges and only Opex to be recovered through Termination Charges. The recovery of CAPEX through Termination Charges has never been envisaged for reasons also explained by the Authority in Memorandum of Understanding to the IUC Regulation dated 9th March, 2009.

7. **Should TRAI continue with the existing rate of return of around 15% in the form of pre tax WACC as adopted in other regulations? If you do not agree with the above, please state what should be the rate of pretax WACC, along with justification for your proposed rate.**

   TCL Response:

   The same should be left unchanged.

8. **Would it be appropriate to adopt Straight Line Method with an average life of 10 years for all network elements for taking into account depreciation? If you do not agree with this proposal, please give your alternative method with justification.**

   TCL Response:

   Straight Line Method of depreciation that is consistent with Schedule XIV of the Companies Act is the right approach to take. This would also enable easier collation of data from the Annual Reports of the Companies. Assuming an average life of 10 years for network elements for taking into account depreciation would be a reasonable approach.

9. **Do you agree with the proposal for treatment of the cost items as indicated in Table 3.2? If not, please give your proposal with justification.**

   TCL Response:

   We agree with the cost items indicated in the Table 3.2. Any non-operational expenses or extraordinary/prior period items should be excluded

10. Do you agree that revenue can be used as a driver for segregating the cost pertaining to VAS services from the total cost indicated in the ASRs? If not, please provide a template with appropriate method for separating the cost items for value added services from the cost data provided in the ASR.

TCL Response:

We suggest that VAS revenues should not be 'directly' reduced from the total OPEX.

In the absence of data relating to Costs pertaining to VAS in the Accounting Separation Reports (ASR), a fair approach would be to reduce the total OPEX by the proportion of the VAS revenues to the Total Revenue as was the approach taken by the Authority in the last review.

It can be argued that provision of VAS would include the additional cost of running applications and hardware platform; however, the underlying network being used for delivery of services continues to be the same as being used for provision of basic services. It may also be seen that in the current market scenario for most of the operators the provision of VAS is earning them premium above the basic services while typically it's the technology enabler or the III Party provider who is bearing the cost of running the applications. Effectively this means that the service provider is able to realize higher revenues out of the same underlying network the cost of which has already been accounted for in OPEX for determining the termination charges.

11. Should termination charges be asymmetric in respect of existing operators and new entrants or between different types of networks? What should be the criteria to distinguish between an existing operator and a new entrant? Please justify your answer.

TCL Response:

TCL does not support asymmetric termination charges in respect of existing and new entrants or between different types of networks. In the scenario of cost based IUC charges , each service provider would be in receipt of IUC as per the usage of its network and there is no case for asymmetric termination charges since it goes against the principle of "work done" for determining the IUC

It may be noted again that the basic principle of IUC regulation – the work done principle cannot be compromised with. For any network whether deployed by the existing operators or by the new operators the work done to terminate calls cannot vary hence it is incorrect to provide for asymmetric termination to different operators.

It may be argued by certain operators that based on the time of entry of new operators the potential market opportunity continues to diminish and thereby restricts the ROI for newer operators, hence there is a case for implementing asymmetric charges. We believe that there is no merit in this argument on the following counts:

The market opportunity is determined by socio economic factors.

a. Almost 40% of the residual population of India still needs to be explored for potential telecom solutions.
b. Indian Mobile Market has just ventured into segments like 3G etc which provide incremental revenue opportunities
c. Indian Economy continues to grow at 7-8% per annum which is enabling even remote parts of the countries to improve on their purchasing parity and accordingly the living styles and standards. Telecom being a necessity rather than a luxury is bound to significantly benefit from this growth and accordingly potential opportunities would be available to the new operators to earn revenues.
d. Most importantly, while the existing operators did have better opportunity due to their first mover advantage, their cost of establishing the networks was significantly higher on the count of cost of equipments and technology. Technology has consistently been upgraded and made more efficient while at the same time the cost of the technology has significantly come down in all these years. It may be not be wrong to say that cost of similar capacity equipment would have come down almost by 50-60% in the past 5 years or so and the trend would further be towards reduction of cost. So, while the opportunity potential may have reduced, the reduction in the cost of deployment provides similar opportunity to all operators.
e. Besides, the current regulatory environment facilitates sharing of both active and passive infrastructure which works to the advantage of service providers who entered the market relatively later. Such infrastructure sharing options were not available to the earlier entrants and thus CAPEX requirements have reduced over a period of time for the relatively later entrants into the market.

Symmetric termination charges are in the long term interest of all service providers, consumers and are also vital for continued growth of the industry. In view of the above we feel that there is no case for asymmetric charges for existing and new operators.

12. Should the TRAI treat the work done in origination and termination of a call as identical for the purpose of determining termination charges? If not, please provide justification in support of your answer.

TCL Response:

We agree that on the basis of work done principle, TRAI should treat the work done in origination and termination of a call as identical for the purpose of determining termination charges. Ever since the introduction of the IUC Regime there has been no change in principle of points of handover and pick up of calls. The network elements used for the both origination and termination are identical.

13. **What should be the criteria to estimate the traffic minutes for the fixed line network as actual traffic minutes for the fixed network are not available with TRAI? Please provide justification in support of your answer.**

    TCL Response:

    Reasonable estimation should be taken in consultation with the UASLs who are providing fixed line services.

14. **Do you agree with the policy that origination charge should be under forbearance? Please provide justification in support of your view.**

    TCL Response:

    To sustain competition in all segments especially the long distance segment both termination and origination charges need to be mandated based on costs. This is all the more pertinent in view of the license changes in NLD/ILD licenses enabling NLDOs/ILDOs to access the end subscriber directly through a calling card service. In this reference we would also like to draw the attention of the Authority to the Consultation Paper on revenue share arrangement for IN services issued by the Authority on 3rd Nov 2010 which has been duly responded to by Tata Communications on the 15th Dec'2010.

    In case of carriage charges we have already seen post IUC Regulation VI Amendment (1 of 2006) dated 23rd February 2006 determining ceiling of 65 paisa for carriage charges, operators have greater flexibility of offering inter-operator carriage charges and most of the NLDOs have been able to on pass the benefit of reduction of cost to the end user resulting in significant growth in traffic volumes. The ceiling for carriage charges is reasonable and if the Authority deems fit may be evaluated in current context, however, we would suggest maintaining the same ceiling for carriage rates.

    The cost considerations especially for the origination cost should also take into account unbundling of cost elements and relevant metrics should be set to discount or add costs based on the level of work done by interconnecting operators. At this point we invite reference to the guiding principles as promulgated in the 1997 WTO (World Trade Organization) Agreement on Basic Telecommunications where non-discrimination, transparency, and the availability of reasonable interconnection terms, including cost-oriented rates and unbundled access, from "major suppliers" have been suggested as the key aspects which need to be looked at.

    In the consultation process which ensued the review of IN services and provision of calling cards by long distance operators/Carrier selection it was clearly identified that more than the number of stakeholders the unbundling of elements specially the access can bring about phenomenal leverage to end customers resulting in a truly competitive market and free choice to the end customer. It may be pertinent to take this opportunity in this review and delink access to customers from provision of services. Only when the

customer can exercise choice of selecting service provider separately from the network provider can the real essence of universal service and mass propagation of telecommunication be achieved.

15. Which of the following is the best option for International Termination Charge?
(a) Left for mutual negotiation between access providers and ILDO
(b) Reciprocal arrangements with other countries
(c) Higher than the domestic termination charge
(d) Same as domestic termination charge

TCL Response:

We strongly believe that the Termination Charges should only be based on work done principle and no other mechanism should be considered to arrive at international termination charges.

We would like to present certain key facts about the International Long Distance Market as follows:

1. International Long Distance market has matured over last decades especially the wholesale segment which has been functioning as a stable regime globally.
2. The Wholesale Market dealings are complex in view of different market strengths of global carriers, presence of multi country operators with different market strength, introduction of Number Portability in more and more countries, expansion of IP origination and Over The Top (OTP) players, and emerging MVNOs in different countries.
3. Any International Long Distance call is transited either directly between two International PTTs or through wholesale carriers.
4. Transit through wholesale carriers is primarily based on cost of termination and the quality of service provided by the wholesale carrier.
5. There are complex mechanisms of arriving at cost of termination to different countries and factors like network penetration, regulatory environment of a country, commercial deals for exchange of traffic between different wholesale carriers etc impact the actual cost of termination of any individual carrier.
6. Wholesale traffic transit means that traffic originating in Country 'A' might be terminated to India through interconnections with carriers in Country 'B' or 'C'. Effectively this means that for India Termination there are multiple options of carriers available with any International PTT and not only Indian ILDOs.

An IUC regime which provides for arbitrage between the termination charges for domestic calls and international calls or between traffic originating from two different geographies will inevitably lead to a situation which compromises on the security of the country and provides impetus to Grey market and hence not desirable.

According to us the termination charge for International calls should be the same as for the domestic calls on the basis of work done principle as the terminating network

performs the same amount of work irrespective of the nature of the incoming call being domestic or international.

There is no case for considering any other alternative approach for determining international termination charges due to reasons outlined below. The key factors that go against the options of

(a) Left for mutual negotiation between access providers and ILDO
(b) Reciprocal arrangements with other countries
(c) Higher than the domestic termination charge

are elaborated as follows:

Virtual Monopoly Situation in Option (a) above:

Every Termination network is a virtual monopoly situation where the operator can exercise unreasonable and discriminatory pricing if left to the discretion of the concerned service provider. The point in case for not leaving a component of IUC to be mutually negotiated between access providers and the ILDOs is the past experience (implementation of the first IUC Regulation 2003 effective 1st May 2003) where the ADC applicable on mobile terminating calls was not clearly defined in the regulations. It may be noted that disputes pertaining to the payable ADC /termination rates between the access operators and ILDOs continued for more than a year until the Authority pitched in to revise the regulations and clarify the applicability of ADC on mobile networks. Such inconsistencies lead to misuse of dominant power by access operators and scuttle the growth of the industry as a whole by creating an environment of uncertainty, which are clearly detrimental to the consumer interest.

In this above incidence at least the amounts of termination charges (Rs 0.30/min/Rs 0.40/min for non-metro and metro terminations) and ADC (Rs 5.00/min) were specified, if the international termination charges are left to mutual negotiations it may very well be imagined that the termination charges may not be agreed at all giving rise to situation where the vertically integrated operators may be able to manipulate completely the termination to their network and effectively putting an end to any standalone ILDOs potential to compete on non discriminatory terms. This may be all the more acute in case of vertically integrated operators with significant market strength and lead to a monopolistic environment not conducive for continued growth of the industry in a fair and equitable manner. The situation is not only undesirable but unwarranted as it will lead to reduction in the competitiveness in the ILD market. It may be argued that loss of competition for incoming international traffic does not impact the Indian subscribers however it is a fact that standalone players have been enabling fall in cost for outbound traffic, lack of standalone ILDOs in the market is likely to impact the competitiveness of ISD retail tariffs.

Another case in point is the origination charges payable for originating IN based toll free traffic. In absence of clearly mandated origination charges the inter-operators negotiations were never concluded resulting in delay of launch of the services for the entire market by more than a year. It was only when the Authority intervened and

mandated origination charges that the services could be universally made available. It may also be noted that in absence of a clearly mandated origination charges for IN based calling card service till date none of the service providers have been able to conclude on providing the IN based Calling card services despite license changes as well as directions to this effect being issued by the DoT and Authority.

To avoid this situation it is not recommended to not leave the termination charges to be determined through mutual negotiations between ILDOs and Access service providers but necessarily mandate termination charges based on the work done principle.

Regarding Option (b)

The option (b) above; of reciprocal arrangements with other countries is also not feasible and amenable to implementation, we would like to resubmit summary of our comments made vide the consultation issued by the Authority pursuant to the Authority's letter dated 4th Nov 2010 published on the TRAI website, seeking comments from all the stakeholders on the issue of setting floor price for settlement on India for International Long Distance Minutes which were with respect to setting floor price for termination of traffic from middle east countries however the same are relevant as arguments against the overall concept of reciprocal termination rates.

a. Each country has different set of competitive situation and connectivity for termination traffic. Reciprocal termination charges especially for Middle East countries which have a monopoly or duopoly situation will not be beneficial in view of the discrepancy in the competitive landscape of India and these countries. It may be seen that in similar competitive scenarios as of Indian market (e.g. USA) the cost of terminations are on even parity already, hence to assume that reciprocal terminations can bring parity may be totally incorrect.
b. Almost all International carriers are connected to all global wholesale carriers operating out of America, Europe, Asia Pacific and having termination ability through Indian ILDOs due to the interconnections of the Indian ILDOs with these carriers. Any initiative to increase the termination rate to India and implement reciprocal rates would mean that these carriers would be forced to deal with global Wholesale carriers instead of the India ILDOs on the basis of better cost of terminations (e.g for USA based carriers the reciprocal rates would be ~ 1 cent /min) resulting in traffic being re-routed through the global wholesale carriers.
c. The traffic inbound to India is at least 8 times the India Outbound traffic, which means that the traffic balance is tilted towards the International PTTs whereby giving higher negotiating power to such carriers.
d. In situations like of the Middle East countries which are monopoly markets the direct impact on increasing termination rates to India can be another round of increase of settlement rates by these countries (quite likely in the same ratio as the increase in India termination rates are proposed) which will make it more expensive to terminate calls to Middle East and thus impact the Indian Customers.
e. The impact of making reciprocal rates to various countries for e.g. reciprocal rates to Middle East countries will only benefit Telecom Service providers however,

the counter step if taken by the Middle East countries will directly impact the cost of calls to these countries for the India Subscribers. Needless to say this would be retrograde step impacting the affordability of calls for India Subscribers.

f. Any retrograde steps of increasing termination rates from select countries to India will lead to a vicious circle of counter actions resulting in negative impact on India Subscribers instead of the international carriers
g. Most of the key countries like USA etc are economically developed and have access to widespread telecommunication mediums including IP based solution for voice chats etc while Indian subscribers have limited purchasing parity. It will mean that if the cost of making calls to India is increased for these countries they may promote other mediums through IP based solutions thus not only hampering the Forex revenues being accrued to India but also posing a serious security challenge limiting ability of Indian carriers to monitor the traffic. This would certainly be an avoidable situation and potentially poses serious threats to India's security.
h. Moreover, as it's a known fact that many such IP calls do not get transmitted with proper CLIs and it would be virtually impossible for Indian ILDOs to ascertain the source of these calls impacting the ability to monitor them appropriately.

The Authority may consider that such situation is necessarily avoidable and accordingly we submit that the option of reciprocal rates to different countries is practically not feasible.

Regarding Option (c)

In case of option (c) there is no justification of asymmetric domestic and international termination charges. It is evident the level of effort required to terminate any call is exactly the same for access networks irrespective of the nature of call. Since the adopted IUC regime clearly follows a cost based or cost oriented approach, it would be really surprising to see any plausible justification for continuing asymmetric termination charges for domestic and international calls.

The settlement rate ("SR") for India is comprised not only of the termination charge but also of carriage charges payable to NLDO as well as other components of costs like revenue share etc. In addition to the above prior to October 2008, ADC was also included in the SR. The change in SR primarily has been due to reduction of ADC and reduction of carriage margin of the ILDOs. It is also a fact that incidence of ADC resulted in grey market activities and situations of bypass of security monitoring facilities in such call termination. ADC as component of IUC was seen by all the stakeholders currently demanding higher ILD termination charges as one of the biggest factor contributing to grey market. Asymmetric termination charges have all the more potential of abetting and encouraging growth of grey market as this will again give rise to arbitrage for a grey operator to flourish. The potential arbitrage in such situation can exploited by unscrupulous elements to terminate calls and pose a security threat. The same needs to be necessarily avoided and the Authority should revert the International Termination Charges to be on par with the domestic termination charges.

It is argued by some operators that the Mobile termination costs particularly in Europe are high as compared to India. While this is true, it also needs to be kept in mind that these are fairly saturated markets where licences were acquired by operators at steep prices. Further, the costs of termination of international calls in these countries is the same as any other call that is generated locally. As such, there is not much scope for arbitrage or grey market. While this is not true in Indian context, the approach of keeping artificially high costs of termination for international incoming calls to India is likely to distort the market which is in a phase of rapid growth and lead to mushrooming of grey market and associated security issues.

We strongly feel that mandating higher international termination charges is a retrograde step from being an open market telecom regime to a monopolistic restrictive market. In the current scenario termination charge when Indian telecom operators as well as regulations are becoming globalized and contributing to the building up a strong brand image for India , such a step has a potential to tar the good work undertaken by the Authority and the DOT over the last 5 years.

As such it is evident that the only relevant principle to adopt for international termination charges is cost base work done principle. The Authority in the interest of keeping ILD segment competitive should mandate international termination charges at par with domestic termination charges.

Besides, there are three component of work which the ILDO accomplishes in carrying the ISD traffic to and from the country. These segments for which the ILDO incurs the cost include

- International call carriage
- ILD Gateway Transit
- Domestic call carriage and handover to the terminating network

The above segment of costs should constitute a component of the IUC and determined as part of the International Termination Charges payable to the ILDOs.

It has been brought out in multiple submissions made by Indian operators in the past that the access operators are over compensated (since Regulation dated 9th March 2009 allowing higher termination charges Rs 0.40/min which is more than the due share for access service providers) against the actual cost of network /work done for completion of these calls, the ILDOs have been bearing the brunt of reduction of margins.

The competitive situation in the ILD market has driven down the margins of ILDOs to as low as 5-10 paisa/min. The increase in termination costs for International calls from Rs 0.30/min to Rs 0.40/min has meant squeezing of the ILDO margins and adding the same to the terminating access networks. This was clearly against the principle of work done. It may be noted that while the termination charges payable by an ILDO is Rs 0.40/min i.e ~ 0.9 US cents, the market price for India termination offered in the international market by

competing ILDOs is as low as 1 US cents. This leaves a meager margin of only 0.1 US cents (~ 4.5 paisa) for the Indian ILDOs as opposed to a revenue of 0.8 US Cents (8 times that of ILDO) for the access service provider.

This has adversely impacted the ability of ILDOs to cover opex and investments in networks by this important segment of the telecom market.

It may be noted that in comparison to the access service provider terminating calls to the subscriber after handover by ILDOs, the work done by ILDOs is significantly higher and needs to be compensated as a component of the IUC. The call flow in case of International Calling needs to be taken into account to determine the "work done" by the various entities involved. A simplistic block diagram is presented below to provide details of the call flow in case of ILD Outbound and ILD incoming calls:

Figure 1: Call Flow and provision of network by ILDOs for carriage of ISD calls from India to the world

ILDOs carriage of outgoing ISD calls from India involves:

1. Picking up calls from GMSC POIs from all 23 circles (for interconnections at L-1 TAX locations with Mobile Operators) ,
2. Backhauling the calls to its ILD Gateway switch across the country (in some cases involves carriage over 500 Km across the country),
3. Switching of calls at its ILD Gateway to the correct International Carrier,
4. Implementation of Optimal Routing on ILD Gateway based on different foreign carriers offering different Costs & capacities for calls to various destinations. The routing of ILD calls is much more complex than domestic call routing since it entails arrangements with multiple operators for each country of termination and handling of complex numbering plans for each country. This requires sizable investments and

operations costs in managing ILD outbound traffic and delivering an optimal cost for terminating the calls. Indian customers making internatonal calls benefit from the lower costs and good quality of service achieved through such routing optimization systems deployed by the ILDOs.

5. Carriage of calls through a International network created through submarine/satellite capacity to interconnect international carriers across the world. Costs of building redundancies and scalable networks need to be factored in.
6. Handover of calls at designated locations to the international carriers. This involves payments of transit charges, co-location charges and exchange rate variations which impact the costs of the ILDO.

Figure 2: Call Flow and provision of network by ILDOs for carriage of incoming ILD calls from international carriers to India.

Termination of Incoming calls by ILDOs involves:

1. Pickup of calls from International Carriers through the global interconnections created with multiple International Carriers and different point of presence outside India.
2. Carriage of calls from International locations to ILD Gateway in India on submarine capacity/satellite capacity. There are associated costs of providing redundancies and

scalability of the network deployed to cater to this traffic. Both Voice and Signaling traffic requires investments by the ILDOs.

3. Switching of calls at the ILD gateway to the correct mobile/fixed line network
4. In case of MNP dipping into the MNP database to resolve actual mobile network where the call needs to be terminated for ported numbers.
5. Carriage of calls to designated point of handover to either a Mobile Operator GMSC(at L-1 TAX location interconnects) or to the NLDO designated transit switch for fixed terminations
6. Handover of calls at the designated point of handover.

In addition to the above, ILDOs need to significantly invest in the following infrastructure/assets to manage the routing/billing/settlement of calls:

1. International SS7 interconnects to manage signaling
2. Routing systems to manage complex routing. International routing involves managing multiple country number plans and ILDO switches need the capability to route at a granularity of country-operator-addressable codes. For e.g. in case of calls to United Kingdom, the ILDO switches need to resolve apart from country codes the actual network (e.g. UK Vodafone, UK O2, UK Orange, etc), the codes being supported /active with these networks (e.g. +44 7XX YYY), cost of terminations to these codes at various hours in a day, cost of termination to these codes on various days of the week.
3. Billing systems to manage
    a. National Interconnect billing (Indian Interconnects for ILDOs means average 7-8 mobile operator interconnects per circle)
    b. International interconnect billing which include various mechanism of settlements e.g. Billing based on invoices, billing and settlement based on declarations of traffic.
    c. Multiple billing cycles with various international carriers
    d. Multiple currencies with various international carriers and manage exchange rate risks
4. QoS Monitoring systems to ensure
    a. Standard Quality of service for international calls
    b. End – end measurements of QOS
    c. Near Real time network monitoring parameters
5. Settlements with multiple carrier including reconciliation and dispute resolution
6. Bad debts, legal costs to settle disputes or make collections from carriers outside India.
7. MNP NPDB database systems to manage correct routing of traffic for ported numbers not only for India calls but even for international destinations where number portability has been implemented
8. Extensive expenses to ensure restoration of network in case of transmission outages of submarine capacities.
9. 24X7 network operations support for trouble shooting.

10. Monitoring systems to comply with the regulatory directives issued by DoT and the Authority

It may clearly be seen that in case of ILD calls carriage both from India to the world as well as ILD incoming calls to India, ILDOs play an extremely significant role to ensure call completion.

It is extremely pertinent to address this issue at a regulatory level and ensure ILDOs are compensated duly for the work done by the ILDOs. We accordingly suggest that LDO carriage and transit charge payable to ILDOs to be included as mandatory component in IUC.

In view of the above we submit:

1. A new component of ILDO carriage charge of Rs 0.25/min as a floor or as determined during costing exercise should be included in the IUC Regime to compensate for cost of carriage involved in carrying international calls to and from various international destinations.
2. All Settlement rates to International Carrier should be a sum of ILDO carriage charges (floor of Rs 0.25/min) and prescribed termination charges payable to mobile operators (which should be cost based i.e. Rs 0.20/min or as determined by the Authority through its review of cost of termination) along with NLD carriage component as applicable.
3. Forbearance in International termination rates payable by access operators to ILDOs for outbound ILD traffic should continue
4. Over and above the negotiated termination rates for ILD Outbound calls being transited through ILD switches, a minimum transit charge of Rs 0.15/min should be payable by access operators to ILDOs to compensate for the deployment of traffic management systems for International Calls.

16. Is there a need to specify separate ceilings for carriage charges for remote and hilly areas? If yes, how should the costs corresponding to remote/ hilly areas be segregated for carriage charges to/ from remote/ hilly areas, as the Accounting Separation Reports of the NLD operators provide only a consolidated cost for pan India operations?

TCL Response:

There is no need to specify separate ceilings for carriage charges for remote and hilly areas. The Ceiling Carriage Charges notified by the Authority in IUC regulation of 2006 has enabled growth of National Long Distance minutes and drop of retail tariffs. This has practically meant “death of distance” in NLD. The fact that TRAI has left the Ceiling Price unchanged at Rs.0.65 per minute since the review in year 2006 has meant that the carriage charges for remote/hilly areas can continue to be higher than other more reachable areas. Thus, the current Ceiling Price on Carriage Charges may continue to remain unchanged.

17. Do you feel that TRAI should intervene in the matter of International Settlement Rates? If so, what should be the basis to determine International Settlement Rates?

TCL Response:

We would like to submit the current perspective of the International Long Distance Market prior to response to the above question. The following are the salient features of the Global Wholesale Market for International Carriers:

- The Global International Long Distance market has matured over the last decade and has seen a rapid growth with the expansion of NGN/IP networks. The International Wholesale Market dealings have become more complex and dynamic in view of different market strengths of global carriers and the presence of multi-country operators.
- Any International Long Distance call can either be directly exchanged between two International Carriers or transited through one or more international wholesale carriers offering transit services. Transit through wholesale carriers is based not only on cost of termination but also on quality of service provided by the concerned wholesale carrier.
- The cost of termination to a country is primarily a factor of economic, social and regulatory environment prevailing in that country. However, this cost of termination to a destination may be quite different from the rates offered by that country's PTTs (incumbent Carriers) due to availability of transit services offered by many other global carriers. There transit services are offered under complex deals & mechanisms and cover multiple destinations.
- Different Carriers worldwide offer more than one Quality of service with differentiated costs for the same destination. Factors that influence the rates offered for terminating calls to a specific country depend upon the network coverage, service management, routing optimization and capacity management by the concerned telecom carrier.
- Effectively this means that for India Terminating calls there are multiple routing options available with any International Carrier/PTT and not only the Indian ILDOs. The growth of IP and NGN networks over the last few decades has made interconnections between different operators simpler, faster and scalable.
- Besides above, the balance of traffic and payments also plays a significant role in negotiations of settlement rates between wholesale carriers or PTTs for terminating calls to a specific country.

From above, it would be clear that Global market, by and large , has moved ahead of the old system of bilateral International Settlement Rates which was the archaic TAR (Total Accounting Rate) Regime. It is our submission that due to the changed nature of Global Carriage market, there is no need of regulatory intervention in the matter of International settlement rates . It may be pertinent to note that during the TAR regime even, the Regulators (notably government departments for telecom in most cases) were not

involved in setting any benchmark rates for settlement although were involved in negotiations of the rates.

A regime where international settlement rates are regulated in addition to the other components of IUC goes against the very principle of a free market characterized by competition. Such an environment would discourage investments in international long distance and is likely to lead to deterioration the quality of service offered for international calls. The key differentiator between the international operators is their network reach and efficient management of service and quality. In a regulated regime, there would be practically no emphasis on these areas. Such a regime would also work to the advantage of alternative channels of communication with the growth of IP network and adversely impact the investments made by operators in Cable systems and other network infrastructure.

18. **How can the cost of providing transit carriage be segregated from the cost data in the ASR? Please provide a method and costing details to separately calculate this charge.**

    TCL Response:

    No comments

19. **If the cost of all relevant network elements are taken into account in the calculation of the fixed line termination charge, is there any further justification to have a separate transit carriage charge? Please give reasons for your answer.**

    TCL Response:

    No comments

20. **Is there a need to regulate the TAX transit charges or should it be left for mutual negotiations? In the event transit charge is to be regulated, please provide complete data and methodology to calculate TAX transit charges.**

    TCL Response:

    While the Authority may take a considered view on TAX transit charges one element which has been not accorded due attention is the cost of ILD Gateway transit by ILDOs. In a fair regulation the consideration of cost applicable for one network element for one type of operator (Basic Operator) should be equitably applied to a similar network element in other type of Operator (ILDO). ILDOs have been involved in transiting ILD traffic through their deployed ILD gateways and been investing in upkeep of the network to support the access service providers for ILD traffic carriage. However, it is pertinent to note that at any point of time within the IUC regulations the need to compensate ILDOs for the work done has not be seriously considered despite the ILDOs critical role in carrying the calls, ensuring access to security agencies , monitoring calls to ensure

compliance to all terms etc. We have submitted in response to the question no. 15 above the effort required by the ILDOs to complete ILD calls both to and from the country. However, both from the outbound traffic stream as well as the inbound traffic stream ILDOs are the segment who are earning the least revenue and have been the worst hit of all the service providers.

It is submitted that the share of ILDOs for ILD Gateway transit and carriage as per the work done principle may be explicitly defined as part of the termination charges thereby enabling sustenance of the ILD service providers.

21. Is there any need to prescribe separate termination charges/ carriage charges for video calls? If yes, how should this charge be calculated in the absence of cost data? Please provide the methodology and data to be used.

TCL Response:

No comments

22. Do you agree that a deterrent termination charge should be imposed for commercial SMS? In your view, what would be the most appropriate level of termination charge for commercial SMS?

TCL Response:

No comments

23. Do you agree that Bill and Keep regime should be put in place for other types of SMS (non-commercial SMS)? Please provide justification for your response.

TCL Response :

In so far as International Inbound SMS are concerned, the settlement of termination charges and the attendant commercial agreement (AA.19, AA.71) is between the Indian Mobile Operators and the International Entities (Viz International Mobile Operators, Global SMS Hubs).

In case of bilateral commercial agreements between the Indian Mobile Operators and International Mobile Operators, the arrangement is generally of Bill and Keep. In case of Global SMS Hubs also, there may be variety of commercial arrangements/agreements but only between Indian Mobile Operators and Global SMS Hubs. As per the arrangement prevalent as on date ILDOs do not figure in the settlement of termination charges to Indian MNOs for the aforesaid situation/reason. According to us, the termination

charges for international incoming SMS should not be regulated as this goes against the principle of a free market characterized by competition.

24. Is there any need to prescribe SMS carriage charges or should it be left for mutual negotiation? If SMS carriage charges are to be calculated, what methodology should be used to calculate these charges? Please provide all cost details and methodology

TCL Response:

No comments