TCL Response to TRAI CP on IUC

Since the inception, 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. At the time of implementation of the first IUC in Jan 2003 the need was to specify an IUC regime which gives 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 were 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 neutral and sustainable business environment in the Telecom Industry. It has been more than ten years since the first IUC regulation however; the considerations for evaluating the interconnection regime continue to be the same.

We would like to present the following aspects which have been highlighted in various forms during this period of Telecom growth since the time of implementation of IUC regime:

- Priority to provide affordable communications to the Indian masses
- Need to provide a litigation free and simple interconnection regime
- Need to ensure sustenance of all competing operators to ensure sufficient level of competition and avoid monopolistic situation in the telecom market
- Be proactive and flexible to assimilate future growth scenarios and technological advancement
- To avoid situation of Vertical Squeeze by any of the vertically integrated Operators of the stand-alone operators of various services and provide level playing field to all operators.

The current review should take cognizance of all the above factors to arrive at a refined regime which can act in a way similar to the earlier regimes and facilitate assimilation of all relevant aspects including if required taking steps to propose changes in policies.

An IUC regime that provides for Cost Based interconnection charges based on work-done principle is fair and equitable. The cost based methodology is economically efficient and takes care of the consumer interest as well as interest of the Service Provider. 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.

The Framework for interconnection usage charges in India since 2003 has 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.

Currently as per the March, 2009 IUC regulation the termination charge for international calls is 40 paise whereas the termination charge for domestic calls is 20 paise per minute. These charges have remained unchanged for more than 5 years now.

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. However, it may be seen that the current market situation is making it unviable for ILDOs to sustain the ILD business. Especially in case of ILD Incoming calls, the settlement rates to India have dropped to unsustainable levels. This has been brought out in multiple submissions made by Indian operators in the past. It may be seen that while the regulations have ensured that the access operators are compensated duly (and in case of the latest regulations currently applicable allowing Re 0.40/min of termination charges more than the due share) against the actual cost of network /work done for completion of these calls, the ILDOs have been bearing the brunt of reduction of costs both on the outbound traffic and the inbound traffic. While currently the cost of termination to India for an ILDO is Re 0.40/min i.e ~ 0.7 US cents, the market price for India termination being offered by some carriers is as low as 0.75 US cents which leaves a meager margin of only 0.05 US cents (~ 3 paisa) for ILDOs. Similar is the case with ILD Outgoing, while the consumer still continues to pay as high as Rs 4/min for destinations like USA, the share of margin for ILDOs in the traffic is not more than 0.1 cents (~ 6 paisa). The margins being made by ILDOs are not even sufficient to cover the cost of bandwidth being maintained by the ILDOs for carriage of calls leave aside getting a reasonable return on their investments.

The current situation is not conducive for ILDOs to continue business and is detrimental to free competition to be maintained in India market. Not only it impacts the ability of stand-alone ILDOs to earn sustainable revenues, it impacts their ability to service the requirements of making the International telecommunications affordable to Indian consumers.

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 ILDO carriage charge payable to ILDOs to be included as mandatory component in IUC.

In view of the above we submit:

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

As an alternative approach we suggest as follows:

Post this consultation process it is expected that the termination charge for domestic calls may come down to a level of 10 to 15 paise per minute in the next regulation with a stipulation of migration towards bill and keep regime in next three years as per the draft IUC filings done by TRAI in the Hon'ble Supreme Court. In such a scenario there cannot be a direct correlation between the termination charges for the domestic calls and termination charge for the international calls. In case of the termination of the international calls, major work for the same is

done by ILDOs whereas the access provider's network is utilized only for the termination of the call in the last leg. Thus the charge payable to the Access Provider should be a small portion of the international call termination charge and this should also progressively reduce to zero. Therefore any charge which is defined as termination charge for international calls should be split between the ILDO and the Access Provider on a work done principle. A framework that provides for 70% to the ILDO and 30% share to the Access Provider would ensure equitable sharing of costs relative to work done by the individual operators involved in the carriage and termination of the international call.

In case the domestic termination charge is determined to be higher in value than the existing 20 paise per minute or remains unchanged at 20 paise per minute , the international call termination charge should be divided as revenue share between the ILDO and the Access Provider as follows:

a) 20 paise per minute or higher equivalent to domestic termination charge to be paid to the Access Provider.
b) Balance international termination charge (after payment of a) above) to be shared between the ILDO and Access Provider in the ratio of 70:30.

For example if the domestic termination charge is revised to Re. 0.25 per minute and the international termination charge is revised to Re.0.60 per minute then revenue shares shall be as follows:

i) Access Provider: Re.0.36 per minute (Re.0.25 plus 30% of Re.0.35)
ii) ILDO: Re.0.24 per minute (70% of Re.0.35)

Justification for revenue share or new IUC component (ILDO Gateway Charge) to the ILDO

ILDOs carrying calls to and from the country play a significant and dominant role in the origination and termination of international calls. The role of ILDO includes:- International call carriage over submarine cables/satellites/terrestrial cables

- ILD Gateway Transit in India
- Dipping into India MNP database before routing to concerned terminating network
- Domestic call carriage and handover to the terminating network in India

While the termination charge for international call in the new regulation should have no correlation with the domestic call termination charge if the same is determined to be a depleting regime or even otherwise, ILDOs need to be compensated for the costs incurred by them in expansion of international network to deal with the increasing international traffic.

Termination of Incoming international 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. 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 besides providing customer support to callers/international carriers making calls to India from overseas destinations:

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. Quality of Service (QoS) Monitoring systems to ensure
    a. Standard Quality of service for international calls
    b. End to 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. Ensure real time monitoring and extensive expenses to ensure restoration of network in case of transmission outages.
9. 24X7 network operations and customer service support for trouble shooting.
10. Security monitoring systems to comply with the regulatory directives issued by DoT and the Authority.

It may clearly be seen that in case of carriage of 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 by providing them a new IUC component of ILDO Gateway Charge separately or revenue share as proposed above linked to the termination charge for the international calls.**

Termination Charge for International Calls:

Termination charge for the international calls must be fixed at a level that ensures appropriate cost recovery for operators involved in the carriage and termination of these calls. While doing so one has to be mindful of the arbitrage opportunity that gets created due to lower domestic calling tariff vis-à-vis international termination charge. Greater the gap between the two the more impetus it is likely to provide to the illegal operators to mask or re-originate international calls as domestic calls. For example presently the domestic calling tariff is in the range of 30 paise to 60 paise per minute as against 40 paise per minute international call termination charge. Thus despite a marginal arbitrage opportunity there is still scope for the grey market operators to terminate international calls in India bypassing the licensed ILDOs. In this connection, due to increasing instances of grey market operations DoT has recently issued instructions to all the Operators a copy of which is attached herewith as Annexure-1.

With the possibility of depleting regime for the domestic call termination charges and even otherwise due to competitive forces , the local call tariff may come down to the range of 25 to 40 paise per minute because it is highly unlikely that overall reduction in the termination charge would be on passed to the end customers by the CMSPs. **In order to achieve the objective of an orderly growth of the telecom sector it would be therefore advisable to keep the termination charge in the range of 40 to 60 paise with 70% revenue share to the ILDOs and 30% revenue share to the Terminating Access Operator on the basis of work done principle and cost incurred by each of these parties or alternatively it should be sum of new IUC Gateway charge for ILDOs and MTC as determined by TRAI.**

Grey Market Issues:

Higher termination charge for international calls vis-à-vis the domestic calling rates would lead to proliferation of grey market which is highly undesirable as it poses serious security threat to the country besides depriving the Government and licensed operators of legitimate revenues which would accrue to them in case the calls are terminated through the licensed ILDOs.

One recent example is the case study of Pakistan where the international call termination charges were increased from approximately US $0.0100 per minute to US$ 0.0880 and international clearing house (ICH) was set up to handle all international calls to Pakistan. This increase of the termination cost for international calls increased arbitrage opportunity and promoted the grey market in Pakistan significantly despite other measures to monitor and control the grey market operations. Pls refer to the link given below for an Article indicating the legitimate Pakistan termination traffic decreased from 1.3 billion per month to 500 million after termination rate for international calls was increased. As per unconfirmed estimates, the total Pakistan termination market continues to be 1.3 bn minutes per month however the legal operators are now almost reduced to 350mn minutes per month.

http://www.nation.com.pk/business/03-Feb-2014/ldi-market-deal-in-doubt-as-one-cellular-operator-quits-ich

Extract from the Article: LAHORE – " The country's second largest cellular operator, has quitted the deal of International Clearing House (ICH), due to financial losses of over Rs2.2 billion, putting a question mark over the sustainability of LDI market share agreement.

Market sources said that the international incoming minutes were standing at about 1.3 billion minutes per month during pre-ICH scenario, while now after the ICH agreement, the minutes/moth have dropped to 500 million minutes/month due to higher termination rates."

It is argued by some operators that the Mobile termination costs particularly in Europe and Middle East are high as compared to India. While this is true, it is also a fact that the costs of termination of international calls in these countries is quite close to the cost of making calls locally in these countries. As such this does not create much arbitrage opportunity and there is not much scope for grey market. This is not true in Indian context where call rates for domestic calls are very competitive and 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 is likely to lead to mushrooming of grey market and associated security issues.

We would now provide response on the various questions raised in the Consultation Paper.

Q1. Which of the following approaches would be the most appropriate for Mobile Termination Charge and Fixed Termination Charge:
(i) Cost oriented or cost based;
(ii) Bill and Keep
Please provide justification in support of your response

TCL Response: An IUC regime that provides for Cost Based interconnection charges (based on work-done principle) to be paid to all operators involved in the carriage of a call is fair and equitable. This methodology is economically efficient and takes care of the consumer interest as well as interest of the Service Providers. 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.

The Framework for interconnection usage charges in India since 2003 has 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. This principle has withstood the test of time and ensured seamless interconnections between all operators in India unlike most of our neighbouring countries where termination of long distance calls through one operator to the other (inter-operator long distance calls) is either very complicated, inefficient or practically impossible.

A well designed IUC regime is necessary to drive growth of world class telecom services in the country. It will enable competition and ensure welfare of consumers. We are of view that cost based charging is the most appropriate mechanism for IUC in the current environment and state of the industry's evolution. Cost of termination incurred by operators need to be recovered by them to be able to run their operations and make the necessary investments to grow their networks. This would also be in the best interest of the consumer.

While the "Bill and Keep" approach has a number of benefits, it should be applicable only to services were the cost of termination is minimal as in SMS services.

Q2. In case cost-oriented or cost-based approach is used for determining Mobile Termination Charge and Fixed Termination Charge, is there a need to give a glide path towards Bill and Keep and what will be the appropriate time frame to migrate to Bill and Keep regime?

TCL Response: While a Bill and Keep regime may be equitable in a market where few equally strong operators with largely similar market shares/traffic exist, this may not be the right approach for a market like India where inter-operator interconnections are required between operators with significantly different market shares, network spreads, traffic customer base, age of networks, etc. A Cost based or cost oriented IUC Regime ensures fair compensation to all operators involved in the handling of calls. While the "Bill and Keep" approach has a number of benefits, it should be applicable only to services were the cost of termination is minimal as in SMS services.

Q3. Which method of depreciation for the network elements should be used and what should be the average life of various network elements?

TCL Response: TRAI has made use of the straight line method with a ten year average life in previous regulations. It may be prudent to continue with the same method. SLM is a prescribed method for determining depreciation in the Companies Act also and is generally followed by all Operators.

Straight Line Method of charging the depreciation is easy to understand and apply since it spreads the cost of fixed asset evenly over the useful life of the fixed asset. This may be used for all network elements across all Operators.

Q4. Should TRAI continue with a pre-tax WACC of 15% as used in framing other regulations, tariff orders, and regulatory exercises? If not, please state what pre-tax WACC would be appropriate for the present exercise, along with justification and computations.

TCL Response: The Authority should retain 15% pre-tax WACC which has been consistently used over the previous IUC Regimes. While the risk perception and credit standing of different Operators may cause WACC to be different it would be fair to consider a uniform WACC of 15% which adequately covers the cost of Capital of most Operators and is applied consistently for all IUC related computations in the past. As long as the same WACC applies to all Operators, for all interconnections, it is unlikely to create a wide difference in the overall calculations for the purpose of determining IUC. Considering very high debt, equity ratio for the telecom sector, the pre-tax WACC of 15% is considered to be reasonable.

Q5. In case a cost-oriented or cost-based approach is used for prescribing Mobile Termination Charge and Fixed Termination Charge, which method would be the most appropriate for estimating these costs?

TCL Response: The historical Fully Allocated Cost approach is the most practical one at this time. While other costing models such as Long Run Incremental Cost (LRIC) or pure LRIC may

be an option, the information necessary for such modeling would be hard to come by given the different cost structures of different Operators and the multiple networks and cost elements.

We also endorse the following observations of the TRAI: Fully Allocated Cost (FAC) simply divides the cost that the firm incurs amongst the services that it provides. This method has the advantage of simplicity. It uses accounting data submitted by the service providers in their balance sheet, profit and loss accounts & accounting separation reports. It is easy to develop and understand. The results are easy to audit.

The FAC method has the advantage of simplicity; it also ensures that costs corresponding to each network element are reckoned on the basis of work done.

Therefore relying on the latest published audited financials of the Operators and determining the cost based on FAC approach is recommended for determining the costs of "most efficient operator" and allow for 15% WACC thereon.

Q6. In case your response to the Q5 is fully allocated cost (FAC) method, would it be appropriate to calculate IUC using historical cost data submitted by the service providers in Accounting Separation Reports (ASRs), Annual Reports/published documents or other reports submitted to TRAI?

TCL Response: Yes. The latest published financials should be used for determining the IUC along with the latest accounting separation reports filed by the Operators.

Q7. In the FAC method, what items/nature of OPEX should be considered as relevant for the termination cost? Please provide justification in support of your opinion.

TCL Response: In our view it would be appropriate to calculate IUC using historical cost data submitted by the service providers in Accounting Separation Reports (ASRs), Annual Reports / published documents or other reports submitted to TRAI. The historical fully allocated cost approach is the most practical one at this time. While other costing models such as future Long Run cost structures may be looked at, the information necessary for such modeling would be hard to come by given the different cost structures that the different operators are running under.

We also endorse the following observations of the TRAI:

Fully Allocated Cost (FAC) simply divides the cost that the firm incurs amongst the services that it provides. This method has the advantage of simplicity. It uses accounting data submitted by the service providers in their balance sheet, profit and loss accounts & accounting separation reports. It is easy to develop and understand. The results are easy to audit. It is possible to make use projections on the historical or current costs to bring in forward looking element in the analysis.

As regards to various items/nature of OPEX which should be considered for computing termination cost are as under:

1. Depreciation on capex cost of network elements.
2. Network operating cost.
3. Network maintenance cost - maintenance cost that pertains to the network may be included.

4. Amortized Spectrum fee.
5. Employee cost.
6. Administration cost etc.

Q8. Should CAPEX be included in calculating termination cost? If yes, what items of fixed assets from the ASRs ought to be considered relevant for termination cost? How should costs incurred by service providers for acquiring usage rights for spectrum be treated?

TCL Response: The methodology adopted by TRAI should ensure that the terminating operators are able to recover the costs incurred in enabling termination from the originating operator, while at the same time ensuring that supernormal returns do not accrue to any operator. As new technologies emerge, customer expectations for new services drive new investments by operators; capex becomes an important element of the total cost of providing a service to the consumer. Therefore, we recommend that capex recovery be included in the termination charge calculations. Following items of Capex should be included in computing termination charges:

1. Base Stations (BTS)
2. Main Switching Center(MSC)
3. BSC
4. GMSC
5. HLR
6. GGSN
7. SGSN
8. IN
9. SMSC
10. Transmission OFC
11. Transmission Microwave
12. Muxs
13. Billing System
14. Other Softwares

Q9. Would it be appropriate to take an average life of 10 years for all network elements without any salvage value for the purpose of depreciation in the FAC method? If not, please suggest an alternative method keeping in view the categorization of network elements prescribed in Accounting Separation Regulations, 2012, along with justification.

TCL Response: The average life of all network assets may be taken as 10 years without any salvage value.

Q10. Is there any need to adjust costs associated (as reported in ASRs) with products other than voice calls, for the purpose of computing termination cost using the FAC method? If yes, please suggest the appropriate cost driver along with justification.

TCL Response: Yes cost towards products other than voice calls need to be excluded for the purpose of computing termination cost under FAC method. Network utilization may be used as

cost driver for the purpose of allocating cost to different products and services. The goals of economic efficiency and financial viability are generally achieved by setting charges that are cost oriented and that are specifically based upon cost causation.

Q11: Do you agree with the methodologies explained for various variants of LRIC, including the detailed description of computation of the termination cost using LRIC model in the Annexure? If not, please give your answer with justification.

Q12: In case it is decided to go for an LRIC model for determining termination cost, which is the most suitable variant of LRIC for the telecom service sector in the country in the present circumstances and why?
(i) LRIC
(ii) LRIC+
(iii) Pure LRIC

Q13: In case your response to the Q12 is LRIC+, what are the common costs that should be considered for computation of termination costs?

TCL Response to Q11-13: TCL is of the view that Fully Allocated Cost(FAC) methodology is the most appropriate method for computing termination cost.

In the LRIC model, the network demand for a hypothetic efficient operator is identified at the beginning of a year. In order to meet this demand, an efficient network is dimensioned using the network design parameters of the typical service provider. The costs of the various network elements are then computed on the basis of the present costs. These costs are then allocated towards termination service (i.e. off-net incoming minutes) using a routing table in order to determine termination cost per minute.

The relevance of the LRIC methodology therefore depends upon the efficiency concept. Thus it does not compute actual accurate cost for the operators. Also computation under LRIC model is extremely complex and very difficult to ascertain incremental cost for each network element. Further since computation under LRIC model is based on present cost basis, there is no incentive for entrants or new operators to build own network and would prefer using the incumbent's network. In a way it introduces inappropriate incentives for entrants or new operators.

Q14: In case there is a significant difference in the mobile termination cost and fixed termination cost, will it be appropriate to prescribe different mobile termination charge and fixed termination charge?

TCL Response: The current IUC regime provides for symmetric termination charges for mobile and fixed termination. This applies to both domestic and international call termination charges. There is no merit in creating an asymmetric IUC regime with different termination charges for mobile and fixed line. There has been virtually no growth in the fixed line penetration over the last decade and any approach to cover legacy costs of fixed line network will not be in the consumer interest therefore the approach adopted for determining mobile termination charges and applying the same for both mobile and fixed lines is recommended.

Q15: The Authority has already prescribed access charges to facilitate the introduction of calling cards. Is there any other issue which needs to be addressed so that the consumer gets the most competitive tariff for ISD calls?

TCL Response: We welcome the step taken by the Authority in the consumer interest and prescribing the access charges for introduction of calling cards for ISD calls. Mobile customers will be able to access calling card services of various ILDOs only if the interconnection framework provides for a definite time limit for creating of ILDO-UASL interconnects for the purpose of launch of these services therefore a directive to this effect to all Operators would enable mobile customers to avail of such calling card services for ISD calls at competitive tariffs.

Q16: Do you feel that the Authority's intervention is necessary in the matter of International Settlement Rates? If so, what should be the basis to determine International Settlement Rates?

TCL Response: International settlement rates are a function of the costs incurred by licensed operators to terminate calls to the country in question. Therefore, the termination costs applicable as per local regulations, taxes, duties, revenue share, etc., which comprise the costs of an ILDO form the basis for International settlement rates. Such rates are mutually negotiated between operators internationally. However, these arrangements need not necessarily be simple bilateral arrangements but may be complex multilateral/multi-product deals. In fact, there are much fewer bilateral arrangements than in the past due to evolution of the international telecom market into a hubbing business model with commodity-like trading of voice calls. In a global free market, we believe that Authority's intervention is not necessary in the matter of International Settlement Rates.

Q17: Is there a need to fix a floor for international carriage charge for incoming international traffic or prescribe some revenue share between access service provider and the ILDO to safeguard the interest of ILDOs?

TCL Response: Currently as per the March, 2009 IUC regulation the termination charge for international calls is 40 paise whereas the termination charge for domestic calls is 20 paise per minute. These charges have remained unchanged for more than 5 years now.

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. However, it may be seen that the current market situation is making it unviable for ILDOs to sustain the ILD business. Especially in case of ILD Incoming calls, the settlement rates to India have dropped to unsustainable levels. This has been brought out in multiple submissions made by Indian operators in the past. It may be seen that while the regulations have ensured that the access operators are compensated duly (and in case of the latest regulations currently applicable allowing Re 0.40/min of termination charges more than the due share) against the actual cost of network /work done for completion of these calls, the ILDOs have been bearing the brunt of reduction of costs both on the outbound traffic and the inbound traffic. While currently the cost of termination to India for an ILDO is Re 0.40/min i.e ~ 0.7 US cents, the market price for India termination being offered by some carriers is as low as 0.75 US cents which leaves a meager margin of only 0.05 US cents (~ 3 paisa) for ILDOs. Similar is the case with ILD Outgoing, while the consumer still continues to pay as high as Rs 4/min for destinations like USA, the share of margin for ILDOs in the traffic is not more than 0.1 cents (~ 6 paisa). The margins being made by ILDOs are not even sufficient to cover the cost of bandwidth being maintained by the ILDOs for carriage of calls leave aside getting a reasonable return on their investments.

The current situation is not conducive for ILDOs to continue business and is detrimental to free competition to be maintained in India market. Not only it impacts the ability of stand-alone ILDOs

to earn sustainable revenues, it impacts their ability to service the requirements of making the International telecommunications affordable to Indian consumers.

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 ILDO carriage charge payable to ILDOs to be included as mandatory component in IUC.

In view of the above we submit:

1. Forbearance in International termination rates payable by access operators to ILDOs should continue
2. A new component of IUC, which is the ILDO Gateway charge of Re 0.25/min as a floor or as determined during costing exercise should be included in the IUC Regime to compensate for cost of ILDO involved in carrying international calls to and from various international destinations.
3. All Settlement rates to International Carrier should be a sum of ILDO Gateway charge (floor of Re 0.25/min) and prescribed termination charges payable to mobile operators (which should be cost based or as determined by the Authority through its review of cost of termination) along with NLD carriage component as applicable.
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Post this consultation process it is expected that the termination charge for domestic calls may come down to a level of 10 to 15 paise per minute in the next regulation with a stipulation of migration towards bill and keep regime in next three years as per the draft IUC filings done by TRAI in the Hon'ble Supreme Court. In such a scenario there cannot be a direct correlation between the termination charges for the domestic calls and termination charge for the international calls. In case of the termination of the international calls, major work for the same is done by ILDOs whereas the access providers network is utilized only for the termination of the call in the last leg. Thus the charge payable to the Access Provider should be a small portion of the international call termination charge and this should also progressively reduce to zero. Therefore any charge which is defined as termination charge for international calls should be split between the ILDO and the Access Provider on a work done principle. A framework that provides for 70% to the ILDO and 30% share to the Access Provider would ensure equitable sharing of costs relative to work done by the individual operators involved in the carriage and termination of the international call.

In case the domestic termination charge is determined to be higher in value than the existing 20 paise per minute or remains unchanged at 20 paise per minute , the international call termination charge should be divided as revenue share between the ILDO and the Access Provider as follows:

c) 20 paise per minute or higher equivalent to domestic termination charge to be paid to the Access Provider.
d) Balance international termination charge (after payment of a) above) to be shared between the ILDO and Access Provider in the ratio of 70:30.

For example if the domestic termination charge is revised to Re.0.25 per minute and the international termination charge is revised to Re.0.60 per minute then revenue shares shall be as follows:

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Justification for revenue share or new IUC component (ILDO Gateway Charge) to the ILDO

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- Dipping into India MNP database before routing to concerned terminating network
- Domestic call carriage and handover to the terminating network in India

While the termination charge for international call in the new regulation should have no correlation with the domestic call termination charge if the same is determined to be a depleting regime or even otherwise, ILDOs need to be compensated for the costs incurred by them in expansion of international network to deal with the increasing international traffic.

Termination of Incoming international 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. 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 besides providing customer support to callers/international carriers making calls to India from overseas destinations:

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. Quality of Service (QoS) Monitoring systems to ensure
    a. Standard Quality of service for international calls
    b. End to 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. Ensure real time monitoring and extensive expenses to ensure restoration of network in case of transmission outages.
9. 24X7 network operations and customer service support for trouble shooting.
10. Security monitoring systems to comply with the regulatory directives issued by DoT and the Authority.

It may clearly be seen that in case of carriage of 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 by providing them a new IUC component of ILDO Gateway Charge separately or revenue share as proposed above linked to the termination charge for the international calls.**

Q18: What is the most appropriate level for International Termination Charge? Should it be uniform or should it depend on the originating country/region? Please provide full justification for your answer.

TCL Response: Termination charge for the international calls must be fixed at a level that ensures appropriate cost recovery for operators involved in the carriage and termination of these calls. While doing so one has to be mindful of the arbitrage opportunity that gets created due to lower domestic calling tariff vis-à-vis international termination charge. Greater the gap between the two the more impetus it is likely to provide to the illegal operators to mask or re-originate international calls as domestic calls. For example presently the domestic calling tariff is in the range of 30 paise to 60 paise per minute as against 40 paise per minute international call termination charge. Thus despite a marginal arbitrage opportunity there is still scope for the grey market operators to terminate international calls in India bypassing the licensed ILDOs. In this connection, due to increasing instances of grey market operations DoT has recently issued instructions to all the Operators a copy of which is attached herewith as Annexure-1.

With the possibility of depleting regime for the domestic call termination charges and even otherwise due to competitive forces , the local call tariff may come down to the range of 25 to 40 paise per minute because it is highly unlikely that overall reduction in the termination charge would

be on passed to the end customers by the CMSPs. **In order to achieve the objective of an orderly growth of the telecom sector it would be therefore advisable to keep the termination charge in the range of 40 to 60 paise with 70% revenue share to the ILDOs and 30% revenue share to the Terminating Access Operator on the basis of work done principle and cost incurred by each of these parties or alternatively it should be sum of new IUC component for ILDOs (ILDI Gateway Charge) and MTC as determined by TRAI.**

Grey Market Issues:
Higher termination charge for international calls vis-à-vis the domestic calling rates would lead to proliferation of grey market which is highly undesirable as it poses serious security threat to the country besides depriving the Government and licensed operators of legitimate revenues which would accrue to them in case the calls are terminated through the licensed ILDOs.
One recent example is the case study of Pakistan where the international call termination charges were increased from approximately US $0.0100 per minute to US$ 0.0880 and international clearing house (ICH) was set up to handle all international calls to Pakistan. This increase of the termination cost for international calls increased arbitrage opportunity and promoted the grey market in Pakistan significantly despite other measures to monitor and control the grey market operations. Pls refer to the link given below for an Article indicating the legitimate Pakistan termination traffic decreased from 1.3 billion per month to 500 million after termination rate for international calls was increased. As per unconfirmed estimates, the total Pakistan termination market continues to be 1.3 bn minutes per month however the legal operators are now almost reduced to 350mn minutes per month.

http://www.nation.com.pk/business/03-Feb-2014/ldi-market-deal-in-doubt-as-one-cellular-operator-quits-ich

Extract from the Article: LAHORE – " The country's second largest cellular operator, has quitted the deal of International Clearing House (ICH), due to financial losses of over Rs2.2 billion, putting a question mark over the sustainability of LDI market share agreement.

Market sources said that the international incoming minutes were standing at about 1.3 billion minutes per month during pre-ICH scenario, while now after the ICH agreement, the minutes/moth have dropped to 500 million minutes/month due to higher termination rates."

It is argued by some operators that the Mobile termination costs particularly in Europe and Middle East are high as compared to India. While this is true, it is also a fact that the costs of termination of international calls in these countries is quite close to the cost of making calls locally in these countries. As such this does not create much arbitrage opportunity and there is not much scope for grey market. This is not true in Indian context where call rates for domestic calls are very competitive and 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 is likely to lead to mushrooming of grey market and associated security issues.

The International termination charge should be uniform and must not depend upon the Originating Country/region since reciprocal arrangements with different countries to implement the same is not feasible. 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.

It is also pertinent to note that the International inbound traffic 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. In such a scenario, implementation of different settlement rates (Higher for select originating countries) may not be feasible. 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.

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

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.

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.

Q19: What should be the methodology for determining the domestic carriage charge? Is there a need to specify separate carriage charges for some specific geographic regions? If yes, on what basis should such geographic regions be identified? How should the carriage charges be determined separately for such geographic regions?

TCL Response: There is no need to specify separate ceilings for carriage charges for specific geographic regions. 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. Thus, the current Ceiling Price on Carriage Charges may continue to remain unchanged.

Q20: Is there a need to regulate the TAX transit charges or should this be left to mutual negotiations? In the event, the 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 for the BSOs, one element which has not been accorded due attention during the past IUC exercises is provision of compensation to the ILDOs for the massive amount of work done by them in bringing the international traffic and terminating the same in the local networks of India. Detailed justification for providing compensation to ILDOs in form of revenue share has already been submitted in response to Question No.17. 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 which is one small part of the overall work done by the ILDOs and ILDOs have 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 and conditions of license etc.

Q21: 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: The basis for allocating costs to switch transit can be checked with the relevant operator filing the ASR and ensuring that the work-done principle is adhered to.

Q22: If the costs 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

TCL Response: There is no ground or justification for a separate transit carriage charge in the IUC regime which takes into account all cost elements for fixed line termination. There is no justification for any transit charges to be applicable on calls handed over at SDCA level.

Government of India
Ministry of Communication & I.T.
Department of Telecommunications
1017, Sanchar Bhawan, 20-Ashoka Road, New Delhi
(TERM wing)

Letter No. 3-2/2010-SI (vol. II) Dated: 2.12.2014

To,

All BSOs/UASL/UL/CMTS/ISPs/NLDOs/ILDOs

Subject: Curbing of clandestine /illegal telecom operations -regarding.

In the recent past, an appreciable increase in clandestine/illegal telecom operations is noticed particularly in Hyderabad. Further, it is also noticed that SIM cards are being obtained illegally/fraudulently by miscreants and that repeat offenders are even reestablishing illegal telecom operations after obtaining bail. Such clandestine/illegal telecom operations pose serious national security implications beside revenue loss to the Government and Telecom Service Providers as well. This is a matter of serious concern. All possible steps need to be taken by telecom service providers to curb such activities.

2. From time to time, TERM Cells of DOT with the help & assistance of Law Enforcement Agencies (LEAs) have unearthed clandestine/ illegal telecom operations. Mostly following type of illegal telecom operations have been found:

(i) International voice calls are routed in/out of India through Internet/High speed Leased Line (LL) on unauthorized telecom operators bypassing the legal route of International Gateways. These calls are received by the end user through the system of unauthorized operators using SIM cards/ land lines etc. of authorized access service providers.

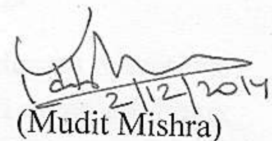
(ii) Miscreants obtained bulk telecom resources viz. ILL /IPLC /SIM cards from authorized telecom service providers for their bonafide purposes and resell these telecom resources to multiple individual by establishing their facilities for which they raise invoices and collect revenue thereof.

3. In order to curb such illegal activities and need for possible steps to be taken by Telecom Service Providers, DOT has made various provisions in different licenses under security conditions and also issued various instructions from time to time in this regard. However, LEAs/MHA have informed that there is lack of seriousness on part of service providers to adhere the various provisions relating to curbing of illegal /clandestine telecom operations to safeguard the national security aspects.

4. With a view to curb such illegal/clandestine operations forthwith, all TSPs are again directed to strictly comply to various provisions of their licenses under the head 'security conditions' and various instructions issued from time to time in this regard.

Enclosure:

1. DoT's letter no. 16-11/2003-BS.II dated 24.06.2003 addressed to BSOs/NLDOs/ILDOs
2. DOT's letter no. 820-1/03-LR dated 24.06.2003 addressed to all ISPs
3. DOT's letter no. 1-20/2001-V.Tech. (Pt. IV) dated 23.06.2003 addressed to all Cellular Operators
4. DOT's instructions on verification of New Mobile Subscribers issued vide letter No. 800-09/2010-VAS dated 09.08.2012



(Mudit Mishra)
ADG (TERM), TERM Wing, DOT HQ

Copy to:

1. All DDsG TERM Cells for kind information and to ensure compliance from all TSPs
2. COAI/ AUSPI / ISPAI/ACTO for disseminating instructions to all TSPs for strict adherence pls