**Q1: In view of the recent technological developments in the telecommunication services sector, which of the following approaches is appropriate for prescribing domestic termination charge (viz. mobile termination charge and fixed termination charge) for maximization of consumer welfare (i.e. adequate choice, affordable tariff and good quality of service), adoption of more efficient technologies and overall growth of the telecommunication services sector in the country?**

**(i) Cost oriented or cost based termination charges; or**

**(ii) Bill and Keep (BAK)?**

**Please provide justification in support of your response.**

Before we discuss and deliberate on approaches for prescribing termination charge, it is important to dwell upon a few basic issues which is fundamental to the Policy on Interconnect Usage Charges & derivation of Mobile Termination Charges. It is important to single out the role of the Terminating Operator who provides the network that can terminate calls to its customers. There are no adequate substitutes here. In the absence of regulation, the operator would have an incentive to increase termination cost. These are strong forces and given the fact that the only motivation for the operator is to raise termination charges , hence regulation is required to protect the consumer's interests. World over, Mobile Termination charges are always subject to regulation and the charges are not a 'zero sum' game .

India has adopted Calling Party Pays Regime (CPP), whereby the terminating operator is not allowed to charge for call termination and is accordingly required to be compensated in the form of termination charge. Further, keeping in mind the varied size, reach and market coverage of different operators, any suggestion towards keeping the termination charge '***below full cost'*** or '***Bill and Keep***' regime would be to incentivize the operators to exploit this arbitrage and pass on their cost to the terminating operator, hence enabling the originating operator to distort the market by selling services at lower tariffs.

We note from various consultation papers on IUC reviews (since 2003 to till 2015) and its various explanatory memorandums to the various regulations , that TRAI itself has very clearly indicated the reasons for implementation of cost based MTC and not 'Bill and Keep' (BAK). These reasons are summarized below ;

(i) Tariff flows between the TSPs are significantly asymmetric because of their sizes, age of their networks and profiles of their customers are vastly different.

(ii) Investment in rural telecom networks have lacked momentum because of

a. The Customer-life time –value (CLV) of rural customers is far lower than that of urban customers
b. The level of utilization of the radio access network remains much lower in rural area (i.e. cost of servicing per customer is much higher in rural areas for a considerable period
c. The average rural customer’s willingness –to-pay (WTP) for consumption of telecom service is relatively lower due to lower per capita income and higher incidence of poverty in rural areas (i.e. average revenue per rural customer is lower).
d. Break-event point (BEP) levels on investment in rural areas come much later than they do in urban areas.

(iii) To maintain the network quality standards to the optimum level

Therefore, the most important policy aspect for India is Rural connectivity & bridging the urban-rural Digital Divide, which is steady if not increasing over a period of time. In Rural India , where income levels are much lower , customer's incoming calls are 65-70% of the total calls. Hence if Mobile Termination Charges does not cover the cost of termination, there is no incentive for the operator to roll out the networks at great cost and much difficulty. In countries viz. Malaysia, the Regulator has fixed Mobile Termination charges above the cost so as to bridge the Urban-Rural divide. The Authority may need to consider this , if Digital India is to be realised.

The Urban-Rural Divide is essentially a voice connectivity divide which pales into significance in today's India where the needs are Universal data connectivity & ubiquitous broadband . If one were to plot the divide on the basis of data, the picture is far worse.

Mobile networks benefit from economics of density. Cost per unit of output reduces when sites or distribution outlets and customers are clustered together. Hence it costs more to serve rural customers. and the average cost of serving rural customers has increased from 28% in FY08 to ~40% in FY16. Termination charges should reflect economics of expanding networks aggressively to connect the unconnected. It is a double whammy to the operator if its extends network coverage to the rural areas at high costs and then bleeds due to Mobile termination charges not covering termination cost.

It may be opportune to quote here that the authority itself has very rightly noted in the explanatory memorandum to IUC Regulations 2015 that *“In short, while it may be incurring losses on outgoing calls initially, this would be partially offset by receiving fair and reasonable use-based returns on the off-net incoming calls. This would provide at-least some incentive for TSPs to invest in rural areas. Hence, a cost-oriented MTC regime could induce TSPs to expand their* *footprints in rural areas and, thereby, increase the overall value of the telecom networks. A corollary is that setting MTC at a level which does not recover the 'work-done' by the called party's service provider in terminating the call carries the risk of hindering the expansion of telecom networks in rural areas."*

We are not aware of any telecom regulator having changed its wholesale charging approach because of any technological developments in the telecommunication services sector; rather the technological developments get incorporated into the costing model of IUC by the respective regulator. Also TRAI provided data also does not show any other regime on BAK. This is very significant as they are all far more advanced in terms of maturity, coverage, migration to Packet Switching, etc . Therefore, we believe that under the present charging regime i.e. Calling Party Pays (CPP), only cost oriented or cost based approach can be implemented.

**It is submitted that domestic termination charges should be determined on cost based and work done principle.**

**Q2: In case your response to the Q1 is 'Cost oriented or cost based termination charges', which of the following methods is appropriate for estimating mobile termination cost?**

**(i) LRIC+**

**(ii) LRIC**

**(iii) Pure LRIC**

**(iv)Any other method (please specify)**

**Please provide justification in support of your response.**

To ensure investments flow regularly on expanding the networks, actual cost of call termination must be paid. Most countries require Mobile Termination charges to be cost based & compensatory. This means that Terminated networks must be compensated for value of resources it uses to provide service including Capital expenditure required for those resources. While method of calculating value of these resources, compensating the service provider for the resources must be the cornerstone. TRAI in its own Consultation paper mentions that based on Mobile Termination charges data of 34 advanced countries, average Mobile termination Charges is $ 0.0197 or approx. 2 cents. This comes to approx. Rs. 1.33 per minute, which is 10x of the 14 paise per minute currently regulated and charged in India. The Authority needs to take a serious note of this anomaly.

There are many complex and theoretical discussions around how to calculate Mobile Termination charges-whether it should be by LRIC or LRIC+ or pure LRIC or FAC, etc

Most advanced countries have adopted LRIC or pure LRIC method only a couple of years ago, and that too after attaining 95% coverage -both population wise and geography wise.( with both voice & data ). India is way behind in terms of reaching those milestones yet. . First, we need to connect the unconnected .

IUC rates calculated by TRAI uses the modified model of Long Run Incremental Cost ( LRIC) instead of Fully Allocated Cost ( FAC ) Model. In fact the LRIC model has overlooked many different types of costs viz. spectrum costs, etc. While calculating the IUC rates, it must be borne in mind that there is a significant amount of circuit switching which still exists in the network and is likely to be there for a sufficient period into the future as well. It should also be borne in mind that though there will be Packet Switching based networks, there is a finite cost for the same and cannot be attributed to be zero.

Also, what must be factored into the costs should be the fact that in Rural/Semi Urban Areas, there will be far more incoming calls and less outgoing calls . Any exercise to reduce the call termination charges to zero for incoming calls will lead to dis-incentivisation of the Rural Connect and Digital India program and is likely to only enhance the digital divide instead of bridging it. In fact in many countries internationally, the service providers are incentivised to go to the rural areas, by adopting the cost + termination charges model.

In a country like India unlike in the developed world, we have a situation where large part of the rural & remote areas are still unconnected. Also it is indeed a fact that more than 50% of all BTS's are pure 2G BTS.( with the balance comprising of a mix of 3G & 4G). **It is therefore suggested that both the FAC model and the Hybrid LRIC which is a combination of FAC & LRIC ( which includes both historic cost used in the FAC model and the future cost,) would be more suitable and apt for India.**

In case TRAI still wishes to use LRIC model then it is suggested that a Hybrid LRIC model be adopted which uses a mix of the 'Top down' with a 'Bottoms Up' approach where all the regulatory overheads and spectrum costs can be merged to arrive at a fair and transparent cost based IUC rate, as it shall be the most appropriate one.

The spectrum costs must include both current & future cost of spectrum bands that the Govt is planning to auction. Total Cost of all spectrum in all bands at TRAI defined reserve prices is Rs. 10,65,000 Lakh Crores. Cost of acquisition of 900 & 1800Mhz bands ( used in the 2015 calculation of IUC rate ) is just 25-30% of the overall cost.

It is further submitted that while deriving the termination charges using LRIC+ model in 2015, TRAI probably did not share the model used nor the assumptions that were used We believe that since the LRIC model is based on a hypothetical model, it is important that the model as well as the assumptions be shared with the stakeholders.

It is a convention being followed by International regulators such as OFCOM whereby it seeks inputs from the stakeholders and holds a consultation on the finalization of assumptions for the chosen method of arriving at the Mobile Termination Cost . The model is finalized only after the agreement of assumptions with the stakeholders and post which the model is used for determination of termination charge. It is suggested that TRAI may also follow the same.

**Asymmetry in Traffic:**

While TRAI has always acknowledged asymmetricity in traffic, we believe that the same should also be reflected in the termination charges payable by the operators. We propose a slab-wise termination charge for both Mobile and Fixed Line which is linked with asymmetry as per the table below.

Slab-wise termination charges takes care of asymmetry and puts all debate about traffic imbalance , rural carriage, etc aside as Operator networks in rural areas will always have more incoming calls and hence more asymmetry. Slab-wise termination charges will also provide for higher termination charges for higher asymmetry and hence will provide suitable compensation to the operator doing more work than the other.

| | Imbalance ranging from | Termination Charge |
|---|---|---|
| Zero Imbalance | +/-0.5% | 0 paise/ min |
| Minor Imbalance- | +/-5% | 14 paise/min |
| Small Imbalance | +/-10% | 20 paise/ min |
| Major Imbalance | > +/-40% | 35 paise/min |

Termination charge linked with asymmetricity has the following advantages:

- Incentivises the operators to have balanced traffic
- In case, the traffic is highly imbalanced, the terminating operator receives its cost and is not adversely impacted
- Incentivises the operators to have IUC compliant tariffs which do not exploit the arbitrage of below cost termination charge.

It maybe worth mentioning here that probably time has come to examine the possibility of having different Mobile Termination Charges based on geographies of the terminating locations viz. separate for rural, semi-urban, city/town & metro since costs are vastly different for each location. However, while doing so, it must be ensured that Mobile Termination Charges should be fixed on the basis of actual cost of termination only.

**Q3: In view of the fact that the estimates of mobile termination cost using LRIC method and LRIC+ method yielded nearly the same results in year 2011 (as filed in the Hon'ble Supreme Court on 29.10.2011) and in year 2015 (as estimated for the Telecommunication Interconnection Usage Charges (Eleventh Amendment)Regulations, 2015 dated 23.02.2016), would it be appropriate to put to use the estimates of mobile termination cost arrived in the exercises of year 2011 and year2015 in the present exercise?**

**And**

**Q4: If your response to the Q3 is in the negative, whether there is a requirement of running the various LRIC methods afresh using the information on subscriber, usage and network**

Since costing models (2011 and 2015) are not available in public domain, therefore, we are not in position to offer our comments.

However, we note that cost structure of the industry has changed substantially due to auction of spectrum including the recently concluded spectrum auction wherein the operators spent more than Rs. 65,000 Crores, change in customer behaviors and change in business models etc.

In view of above observations, it may be concluded that both the previous models cannot be used for present domestic termination exercise.

It maybe worth mentioning here that probably time has come to examine the possibility of having different Mobile Termination Charges based on asymmetry of traffic as detailed in response to Q2.

Also, it may be desirable to examine the possibility of having different Mobile Termination Charges based on geographies of the terminating locations viz. separate for rural, semi-urban, city/town & metro since costs are vastly different for each location. However, while doing so, it must be ensured that Mobile Termination Charges should be fixed on the basis of actual cost of termination only.

**Q5: In what manner, the prescription of fixed termination charge as well as the mobile termination charge from wire-line networks as 'zero' through the Telecommunication Interconnection Usage Charges (Eleventh Amendment) Regulations, 2015 is likely to impact the growth of the Indian telecommunication services sector as a whole? Please support your viewpoint with justifications.**

It is submitted that the prescription of fixed termination charge (FTC) should be cost based and on the basis of work done approach. We have not observed any growth in the wire line segment due to ZERO termination charge. In fact, it is against the TRAI's own costing approach and regulation i.e. The Telecommunication Interconnection (Charges and Revenue Sharing) Regulation 2001.

It is important to mention that we have not come across the world that any ITU member state has prescribed 'ZERO Termination Rate' for fixed line network whereas in the case of mobile network there is a termination rate under CPP regime. Therefore, we suggest that both termination rates (Fixed Termination Rate and Mobile termination rates) should be cost based and on work done and resources utilised approach.

**Q6: Whether termination charges between different networks (e.g. fixed-line network and wireless network) should be symmetric?**

It is submitted that Termination charges should be determined on cost based and work done principle. We believe that the termination charges should be the same for substitutable services.

**Q7: Which approach should be used for prescribing International Termination Charge in the country? Should it be kept uniform for all terminating networks?**

We are of the view that the ILD termination charge should be uniform for all terminating networks in India to ensure a level playing field and to avoid any kind of potential disputes because of the types of networks i.e. Wireless, Wireline and Internet etc. Further, the International termination charge should be in line with what is being paid by the Indian operators for termination in foreign countries.

**Q8: Whether, in your opinion, in the present regulatory regime in the country, the standalone ILDOs are not able to provide effective competition owing to the presence of integrated service providers (having both ILDO and access service licenses) and,**

**therefore, there are apprehensions regarding sustainability of the stand-alone ILDOs in the long-run?**

**And**

**Q9: If your response to the Q8 is in the affirmative, which of the following approach should be used as a counter-measure?**

**(i) Prescription of revenue share between Indian ILDO and access provider in the International Termination Charge; or**

**(ii) Prescription of a floor for international settlement rate (levied by ILDO upon the foreign carrier) for international incoming calls; or**

**(iii) Any other approach (please specify)**

**Please provide justification in support of your response.**

We note that TRAI has not provided any kind of market/regulatory analysis which may demonstrate that the standalone ILDOs are facing regulatory challenges /disadvantages because of the present regulatory regime in the country. Therefore, we are of the opinion that there is no apprehension regarding sustainability of the stand-alone ILDOs in the long run.

We do not suggest any regulatory intervention for revenue share between access provider and ILDOs in view of high competition in both the categories and thus it best be left to be decided by market forces on mutual agreement basis.

**Q10: Is there any other relevant issue which should be considered in the present consultation on the review of Interconnection Usage Charges?**

We note that the timing of present review is in violation of IUC Regulations, 2015. We note that in 2015 IUC regulations , TRAI has very clearly decided that it shall review the termination charges regime two years after it has been in force , the relevant portion is reproduced below for ready reference

*"The Authority is of the view that setting a specific timeline for undertaking such a review would impart a modicum of certainty which is in the interest of all stakeholders.* ***Hence, the Authority has decided that it shall review the termination charges regime two years after it has been in force, i.e., the review will be undertaken and concluded in financial year 2017-18.****" (Emphasis added)*

In view of the above IUC notification we believe that the present IUC review maybe started now but implemented only during the financial year 2017-18

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