Date: 18/12/2014

To,

Sh. Arvind Kumar,
Advisor (NSL),
Telecom Regulatory Authority of India,
Mahanagar DoorsancharBhawan,
Jawaharlal Nehru Marg,
New Delhi - 110002

Subject: 'Interconnection Usage Charges' TRAI's Consultation Paper dated 19.11.2014.

Sir,

At the outset we welcome the Authority's initiative to start the review of IUC regulations. The most important topic for discussion in this consultation paper is whether Termination charges should be on cost based/ cost oriented basis or Bill and Keep approach should be adopted.

2. In this regard, it is respectfully submitted that in today's world, convergence of networks and services is at prime importance. The termination charges are biggest hindrance in the way of the convergence of telecom and the Internet. As conventional telecom and internet services are becoming direct substitutes for each other, it will be unsustainable to have different interconnection arrangements for converged/competing services involving internet, media and telecom. Termination charge is also the single biggest constraint on retail pricing. Removal of termination charges and adoption of Bill and Keep regime can drive competition, innovation and investment, which will benefit consumers and the economy.

A-1/20, 2nd Floor, IDBI Bank Building, Vijay Enclave, New Delhi-110045
Tel. : 91-11-45141065

3. The cost plus or cost based MTC regime is totally against the principle of market determined valuation, as is being used for spectrum, tariffs etc. A cost-based regime protects inefficiency of a service provider by guaranteeing a rate of return on costs and investments. In addition, cost-plus regimes are extremely complex to administer and result in significant ambiguity – whose costs, for which technology, for what network utilization etc. become exceeding difficult questions to answer.

4. TRAI has for the first time now raised the issue of inclusion of costs incurred by service providers for acquiring usage rights for spectrum as relevant cost for termination charges. In this regard it is submitted that the **costs incurred by service providers for acquiring usage rights for spectrum is not at all the relevant cost for termination charges, therefore should not be considered while calculating the termination charges. In the earlier regime wherein spectrum was bundled with the licence, entry fee was akin to the cost of acquiring the spectrum. TRAI has never included entry fee as relevant cost for termination charges**. Therefore, this time also the cost of acquiring spectrum should not be included. Even in the report submitted to Hon'ble Supreme Court, wherein one of the method of calculation of MTC was inclusions of CAPEX and OPEX, TRAI has not included entry fee/ charges for acquiring spectrum paid by the service providers.

5. In the current scenario, the service providers are acquiring liberalized spectrum, mainly for providing data services. Had there been restriction on usage of spectrum for providing 2G voice services only, would any operator have paid that much amount? It is further submitted that the spectrum is acquired by them to roll out the network to provide the services to their customers and to comply with the roll out obligations. It is a sunk cost, and should not be taken into account for determination of termination charges, even if FAC approach is used. **As the spectrum procured through the Auctions is LIBERALISED SPECTRUM and will be deployed by the operators predominantly for providing IMT advanced services, the impact of the spectrum cost on IUC for termination of a voice call is irrelevant.**

6. **We strongly supports Bill & Keep (B&K) charging arrangement, as it is the best interconnection regime**. In India, Bill and Keep Approach is the most appropriate for Mobile Termination charges and Fixed Termination charges due to the following:

- **Level playing field for all TSPs** – Under this arrangement as operators are required to recover costs from their own subscribers rather than loading the same on other operators, this arrangement creates level playing field for all telecom service providers irrespective of size of network.
- **Promotes market efficiency and competition** – **Bill and Keep** arrangement significantly reduces regulatory costs of interconnection in terms of back end systems, settlements and monitoring processes. Since the price arbitrage in terms of on-net tariff and off-net tariff gets removed, even new operators get flexibility in creating innovative tariff plans and can effectively compete with incumbent operators.
- **Prevent traffic distortions:** Incumbent networks design on-net/off-net retail price differential at the retail level, in order to deter calls to competing networks. Smaller networks to remain competitive have no choice but to respond by setting even off-net prices at the same level as the larger networks on-net price. As smaller operators are 'forced' to offer low off-net call prices which leads to a large amount of off-net traffic and therefore there is a net outflow of traffic from the smaller network. Due to this traffic distortion, termination charges provide huge advantage to large incumbent networks. The B&K regime would prevent traffic distortion and provide greater choice to consumer to choose their networks.
- **Most beneficial for customers** – With **Bill and Keep** arrangement in place, new entrants can effectively compete with incumbent an player, which enables tariff reduction and introduction of new technologies. This helps to introduce simplified tariffs and increase subscriber usage.
- **Promotes Simple Tariffs to customer:** Under a B&K regime, the main source of complexity of tariffs i.e. differential pricing between on-net and off-net calls is removed. This would result in simplification of tariff plans with same charges for off net and on-net calls, which would remove any confusion in the mind of a subscriber relating to cost of the call.
- **Promotes Technology Neutrality:** In the current framework of technology neutrality, divergent network technologies and multiple network exists. The cost profile of every network is different and the calculation of termination charges may become extremely difficult if actual costs are taken. Although TRAI has adopted uniform rates across all the technologies irrespective of actual costs, it would be extremely difficult to justify uniform termination rates for different technologies. Within validity of the next IUC regime, subscriber

would have option to call using VoIP, VoLTE, 2G, 3G, femto-cells, Wi-Fi hotspots, BWA and fixed-mobile converged calling. In this scenario the B&K regime is more suitable as this regime will not provide benefit to any particular technology.

- **Most suitable for future migration path - Bill and Keep** arrangement is simpler arrangement to address the emerging networks and operating models - Next Generation Networks, pure IP Networks, Fixed-Mobile Convergence, Traffic Offloading, Spectrum Sharing, etc.
- **Increases usage-** Termination charge is floor price for retail tariffs and therefore not much flexibility is available with service providers to design tariffs. B&K would help to remove this barrier and more flexibility will be available for packaging of inter-operator calls. It will result in higher take-up and will act as catalyst to the growth of mobile telephony in rural areas. International experience for B&K countries like US, Singapore and Hongkong shows that B&K regime results in significantly higher levels of calling activity as service providers are given the flexibility to offer innovative customized tariff plans to their consumers.
- **Promotes Level Playing Field Between variety of competing networks:** With an increasing variety of competing networks and piggy-backing 'Over the Top' services, we need a network neutral and future proof approach of regulation of services. The current IUC regime gives huge advantage to OTT players providing telecom services likes voice calls and messaging as they are not required to pay any termination charges. Players like Skype, Viber, Vonage, Whatsapp, Apple Facetime etc are being used to exchange billions of calls and messages. Such calls are routed through internet and not through conventional interconnection, therefore termination charges are not payable for such calls and messaging. B&K regime would provide equal field to PSTN operators to help reclaim the lost market to the OTT players.
- **Equivalent to cost based charges-** With technological and market advancements, the cost per minute is going to approach a near zero value and with such values practically there will not be any difference between **Bill and Keep** and cost based charges, in terms of effects.

7. It is respectfully submitted that the last review of IUC was initiated by TRAI with the issue of pre-consultation paper on 24.12.10. Taking into consideration the inputs provided by various service providers and associations, a detailed consultation paper was issued on 27.04.2011. Open House Discussion held on 25.05.11. As the IUC exercise has far-reaching consequences to the industry, TRAI provided further opportunity to the service providers to present their cost models before all the service providers. Service providers made their presentations on 15.06.2011 and 16.06.2011.

After following such an elaborate consultation process, running about a year with throughout involvement of TSPs, TRAI determined Mobile Termination Charges using various methods and filed a report in Hon'ble Supreme Court on 29thOctober 2011. Summary of the results arrived at by TRAI and submitted to Hon'ble Supreme Court is given below:

Mobile Termination Charge (Rs./minute)		
Fully Allocated Cost Method	**2009-10**	**2010-11**
Without capital cost	0.165	0.157
With capital cost	0.195	0.189
LRIC/LRIC+/Pure-LRIC Method	**2011**	**2012**
LRIC	0.12	0.13
LRIC+	0.14	0.15
Pure-LRIC	0.10	0.10

8. In the aforementioned report submitted to Hon'ble Supreme Court, **TRAI opined that there should be a progressive reduction in termination charges finally converging to zero termination charges i.e. B&K at the end of 2 years from November 2011**. TRAI was of the view that in the meantime, the termination rates arrived at through the <u>**Pure LRIC**</u> method may be made applicable from year 2012 to provide a glide path towards Bill and Keep in 2 years.

9. Para 8.8 of the report **justifies the introduction of Bill and Keep regime in India**. The same is reproduced below:

<u>**Para 8.8 of the report**</u>:

> *"8.8* ***When a telecom service provider establishes a network, it is not only for sending but also for receiving calls. The operator therefore does not do anything special or extra to provide for receiving another service provider's calls. Thus, additionally of costs for receiving calls, in the strictest sense, is close to zero. The revenue from termination charges does not go to pay for any specific additional expenditure caused by the call termination, but it is just a partial compensation of the total costs incurred for creating and operating the network. Measuring costs caused by another service provider's incoming calls is more challenging and there is no general agreement across regulator as to any single methodology that can***

be adopted to arrive at the termination price. Depending on the methodology, used the result is different, as we have seen. There is therefore a case for introduction of a Bill and Keep regime."

10. Some of the important advantages and justifications highlighted by TRAI for Bill and Keep regime, in its report submitted to Hon'ble Supreme Court, are reproduced below:

<u>Para 7.2 of the report</u>:

"***BAK provides a solution to address the issue of market power of call terminating networks.*** *When a call is placed to a particular consumer of the terminating network, the originating network typically has no choice but to purchase the termination service of the terminating operator to which the called party belongs.* ***Thus networks that terminate calls to their subscribers have market power in respect of the terminating call. This problem remains even with competition between terminating networks, since the bottleneck relates to controlling access to particular consumers, and connecting with different consumers is usually not an option for the consumer who is originating the call.***" ***(emphasis supplied)***

<u>Para 7.3 of the report</u>:

"***BAK represents an approach to interconnection charging in which the networks recover their costs only from their own consumers rather than from their interconnecting operators.*** *In respect of cost recovery under BAK, the European Commission made the following observations:*

> *"Given the two-sided nature of call termination, not all related termination costs must necessarily be recovered from the wholesale charge levied on the originating operator.* ***Even if wholesale termination rates were set at zero, terminating operators would still have the ability to recover their costs from non-regulated retail services.*** *Rather it is a question of how these financial transfers are distributed across operators in a way that best promotes economic efficiency to the benefit of consumers."* [1]"

[1] EC recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in EU (Draft commission Staff Working Document Explanatory Note(Brussels, 2008)http://ec.europa.eu/information_society/policy/ecomm/doc/library/public_consult/termination_rates/explanatory.pdf)

<u>Para 7.4 of the report</u>:

"The theory and practice of identifying an optimal termination charge is complex. The result is that ***any conclusions on termination charge, even if arrived at with great care and at a cost, could be disputed by a set of operators perceive it to be against them.*** *Various factors like determination of costs, method of allocation, determining costs sensitive to traffic volumes and the extent to which different products/services should contribute to common costs, etc. can at times be debated."* ***(emphasis supplied)***

<u>Para 7.5 of the report</u>:

"BAK is a simple and low cost mechanism as it requires no billing and related costs. It imposes minimal upfront and ongoing direct and indirect regulatory costs. It avoids the need for reconciliation, billing and payment collection." (emphasis supplied)

<u>Para 7.6 of the report</u>:

"A termination charge becomes an effective floor for retail tariffs. BAK helps to remove this barrier to the retail pricing for off-net calls (i.e. inter operator calls) and has been proven to result in significantly higher levels of calling activity as operators are given the flexibility to offer innovative customised tariff plans to their consumers." (emphasis supplied)

<u>Para 7.7 of the report</u>:

"The European Commission also summarized the advantages often associated with BAK, in particular that:

> *"Bill and Keep obviates the need for regulatory intervention and resolves the termination bottleneck. Moreover, it is further argued that Bill and Keep leads to lower retail prices for call origination and appears to increase usage due to the price elasticity of demand. Furthermore, proponents of Bill and Keep consider that it facilitates development of innovative offers, e.g. flat-rate offers promoting increased usage. It also brings immediate benefits by decreasing transaction and measurement costs. Finally, Bill and Keep takes account of the call externality."[2]"*

[2] EC recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in EU (Draft commission Staff Working Document Explanatory Note(Brussels, 2008)http://ec.europa.eu/information_society/policy/ecomm/doc/library/public_consult/termination_rates/explanatory.pdf)

Para 7.8 of the report:

> ***"International evidence from countries where BAK has been used in practice also appears to support the conclusion that BAK arrangements tend to encourage a more efficient retail pricing structure.[3]" (emphasis supplied)***

Para 7.9 of the report:

> *"One argument is BAK does not lead to optimal outcomes where traffic flows between operators is asymmetric. Traffic balance can be expected if termination rates and retail prices, notably the relative on-net and off-net prices, are approximately set to theoretically optimal levels. This is because individuals' propensity to call each other, if undistorted by artificial price differentials, would be unlikely to vary between networks in a way that would lead to traffic imbalance.* ***In fact, the pricing method itself can influence whether or not traffic is in balance." (emphasis supplied)***

Para 7.10 of the report:

> *"Further, if traffic between two networks is essentially balanced, then the revenue flows between carriers generated through termination charges and BAK will be effectively the same since approximately zero net transfers would occur between networks. Thus, the costs of billing need not be incurred."*

Para 7.11 of the report:

> *"With the evolution of technology and convergence, more and more networks are migrating towards IP network. Regulators the world over are working towards facilitating migration towards Next Generation Networks (NGN) which will be IP based networks so that innovative services could be provided to the customers. In Internet networks which are IP based networks there are no interconnection charges and networks can connect globally without any need for interconnection charges. One argument is that termination charges work as disincentive to deployment of IP networks by operators. Moving towards BAK will encourage the deployment of IP-based telecom networks. Since IP based networks are poised to be the networks of the future for providing telecom services, a BAK regime should be seen as a natural progression in line with the development of technology."*

---

[3](David Harbord& Marco Pagnozzi, 2008, "On-Net/Off-Net Price Discrimination and 'Bill-and-Keep' vs. 'Cost-Based' Regulation of Mobile Termination Rates" , Social Science Research Network accessed at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1374851)

Para 8.9 of the report:

*"As discussed in an earlier chapter, BAK or sender-keeps-all is a model of interconnection pricing in which the originating service provider keeps the revenue billed i.e. there is no settlement of termination charges for off-net calls. We have seen that reducing termination rates will benefit consumers and competition and reduce imbalance in traffic flows. Going the full distance i.e. reducing terminating rates to zero by introduction of the BAK regime would arguably help in immediately realizing these benefits. The Bill and Keep regime will encourage flat rate billing and time differentiated charges, **both of which will improve capacity utilization and will be in the interests of consumers**. It will also reduce the inter-operator off-net traffic imbalance, and thus could help in convergence to an equilibrium situation."*

Para 8.10 of the report:

*"The BAK model avoids the need for the terminating operator to have accounting and billing systems to monitor the flow of traffic, thus obviating such costs. It also prevents disputes that might arise due to settlement of termination charges. However, **the simplicity and other advantages of the BAK system need to be balanced with its potential disadvantages**."*

Para 8.12 of the report:

*"...TRAI **is of the opinion that there should be a progressive reduction in termination charges finally converging to zero termination charges i.e. BAK at the end of 2 years from the present. In the meantime, TRAI is of the view that the termination rates arrived at through the Pure LRIC method may be made applicable now i.e. from year 2012 to provide a glide path towards BAK in 2 years. This will give sufficient time to operators to adjust to the changes in the termination regime and will ensure a smooth transition.**"*

11. As is clear from the above, in the report submitted to Hon'ble Supreme Court in the year 2011, the Authority is fully convinced with the advantages and necessity of introduction of Bill and Keep regime in India. **In the report, TRAI calculated termination charge of Re. 0.10/ minute by using Pure LRIC method and opined that there should be a progressive reduction in termination charges finally converging to zero termination charges i.e. Bill and Keep at the end of 2 years (w.e.f. year 2012)**. After determination of termination charges and submission of the

report in Hon'ble Supreme court, **three years** have been passed, therefore, **Bill and Keep regime should be adopted with immediate effect**.

12. Another aspect, which requires urgent attention of the Authority, is the **Domestic Carriage Charges**. TRAI had fixed Rs 1.10 per minute as the carriage charge for the highest distance band in the year 2003, which was revised to Rs 0.65 per minute in the year 2006 and has remained unchanged since then. BSNL, who is having reach to far flung and rural areas, charges carriage charge with other service providers at a ceiling rates, thereby making STD calls costlier. Other NLD operators are already offering carriage charges much below the ceiling rates. Such higher ceiling of carriage charge may create an incentive for an integrated operator to book NLD revenue at the ceiling charge resulting in reduction of revenue to the Government from Spectrum Usage Charges.

13. There is a clear rationale for bringing down the carriage charges due to the following:

(i) Reduction in the bandwidth prices: Over the years there has been major reduction in bandwidth prices. As per the TRAI tariff ceilings, the price of one E1 was at Rs 22 lakhs/annum in 2003 was reduced subsequently to Rs 8.5 lakhs/ annum. Similar or higher reduction has taken place in case of higher bandwidth requirements. As Carriage charge is primarily dependent on bandwidth prices, any reduction is market rate of bandwidth prices should directly translate into corresponding reduction in carriage charges.

(ii) Exponential increase in NLD traffic: The inter-circle traffic has increased more than ten times since the time carriage charge was last reviewed by the Authority. Such exponential increase in traffic volume has obviously resulted into drastic reduction in the cost of carriage for NLD operator. This can also be correlated with market rate of carriage charges that are being mutually agreed between access provider and NLD operator, which is operating at the substantial discount on the ceiling charges

14. Taking all such factors into consideration, there is possibility of significant reduction in the ceiling of domestic carriage charges. We also do not support separate ceilings of carriage charges for remote and hilly areas. In case such separate celing will

be specified, customers will have to pay higher call charges for calling these locations, which is not in the interest of either calling or called party subscriber. The right approach to address remote/ hilly area telecommunication economics is USO fund rather than IUC regime. This was the primary reason for phasing out ADC regime and providing support to rural DELs through USO fund. It is therefore not advisable to specify separate ceiling for carriage charges for remote and hilly areas.

15. To sum up:

(i) **As the spectrum procured through the Auctions is LIBERALISED SPECTRUM and will be deployed by the operators predominantly for providing IMT advanced services, therefore inclusion of spectrum cost for termination of a voice call is totally irrelevant.**

(ii) **In India, Bill and Keep Approach is the most appropriate for Mobile Termination charges and Fixed Termination charges.**

(iii) **In accordance with the submission of TRAI in Honble Supreme court, Bill and Keep regime should be adopted with immediate effect.**

(iv) **Ceiling of domestic carriage charges should be reduced.**

Bibhupriya Bag

Human Care Charitable Society ★ HUMCARES ★ Reg. No: S/59895 2007

Yours Sincerely,

Copy to:

(1) Dr. Rahul Khullar, Chairman, TRAI

(2) Shri R. K. Arnold, Member, TRAI

(3) Dr. Vijayalakshmy K. Gupta, Member, TRAI