



Telecom Regulatory Authority of India



**Pre-Consultation Paper on
Review of Tariff for National Roaming**

New Delhi, the 20th December, 2012

Stakeholders are requested to furnish their written comments to the Advisor (F&EA), TRAI by 17th January, 2013. Four weeks' time is being allowed in view of intervening holiday season. It may be noted that no further extension in time shall be allowed. The comments may also be sent by e-mail to raj.pal@nic.in. Comments would be posted on TRAI's website www.trai.gov.in. For any clarification/ information, Shri Raj Pal, Advisor (F&EA) may be contacted at Tel. No. +91-11-23230752 Fax: +91-11-23236650

Telecom Regulatory Authority of India

Dated the 20th December, 2012

Sub.: Pre-Consultation Paper on Review of Tariff for National Roaming

1. Section 11(2) of the Telecom Regulatory Authority of India Act, 1997 empowers the Authority to notify rates for various telecommunication services. In exercise of these powers, the Authority has been notifying tariff for telecommunication services including national roaming services.

A- National Roaming

2. The GSM World Association has defined roaming "*as the ability for a cellular customer to automatically make & receive voice calls, send & receive data, or access other services when traveling outside the geographical coverage area of the home network, by means of using a visited network*". If the visited network is in the same country as the home network, it is known as national roaming.
3. While roaming, a subscriber logs on to the network of a mobile phone service provider in the visited service area with whom his home mobile service provider has a 'roaming agreement'. Possible call scenarios for a subscriber while he is roaming outside his home service area are described below:

(1) Incoming Call while Roaming

4. An incoming call to a roamer could be of following two types:
 - (a) from the home service area of the roaming subscriber
 - (b) from a service area other than the home service area of the roaming subscriber including the service area where the subscriber is roaming
5. In both the above cases, an incoming call to a roaming subscriber first reaches his home network. In case of (a) above, the calling party pays local call charges which includes origination charges and terminating charges. However, in case of (b) above, the calling party is making a long distance

(STD) call. (This is true even if the calling party is in the same service area where the roaming subscriber is roaming.) In such a case, the calling party pays for long distance (STD) charges, which includes origination charge, termination charge and carriage charge.

6. An incoming call to a roaming subscriber first reaches his home network. It may be noted that the home network service provider receives termination charges as per Interconnect Usage Charge (IUC) regime from the service provider of the calling party. The home network service provider forwards the call to the visited network, which in turn passes the call to the mobile phone of the subscriber. Thus, an incoming call received by a subscriber while roaming incorporates the following cost elements:
 - (i) Carriage charge for carrying the call from the home network of the roaming subscriber to the visited network
 - (ii) Termination charge for terminating the call in the visited network
 - (iii) Incremental CAPEX and OPEX for infrastructure dedicated for roaming

(2) Outgoing Call while Roaming

7. When the roaming subscriber makes an outgoing call, the visited network routes the call on the basis of the dialed number as follows:
 - (a) In case of a local call, the visited network passes the call to the called network in the same service area, which then passes it to the called party.
 - (b) In case of a national long distance (STD) call, the visited network passes the call via a national long distance operator to the called network which then passes the call to the called party.
8. An outgoing local call while roaming incorporates the following cost elements:
 - (i) Origination charge for originating the call in the visited network
 - (ii) Termination charge for terminating the call in the called network
 - (iii) Incremental CAPEX and OPEX for infrastructure dedicated for roaming
9. An outgoing STD call while roaming incorporates the following cost elements:

- (i) Origination charge for originating the call in the visited network
- (ii) Carriage charge for carrying the call from the visited network to the called network
- (iii) Termination charge for terminating the call in the called network
- (iv) Incremental CAPEX and OPEX for infrastructure dedicated for roaming

B- Determination of Tariff for National Roaming

10. The tariff for roaming services, which was initially kept under forbearance, was determined for the first time through the Telecommunication Tariff (Eighteenth Amendment) Order, 2002. The ceiling tariff prescribed by this order consisted of a monthly access charge, in addition to the usage charges. Subsequently, the tariff for roaming services was revised by the Telecommunication Tariff (Forty Fourth Amendment) Order dated 24th January, 2007. The components of this tariff are described below:

Item	Tariff
Monthly access charge	Nil
Outgoing local call charge	Ceiling of Rs.1.40 per minute
Outgoing STD call charge	Ceiling of Rs.2.40 per minute
Incoming call charge	Ceiling of Rs.1.75 per minute
Incoming SMS charge	Nil
Other matters related to roaming	Forbearance.

11. Cost orientation of the tariff structure, transparency, simplicity and flexibility to the service providers were the underlying principles that guided the Authority in evolving the framework for roaming tariffs mandated through the TTO (44th Amendment). In this order, the Authority moved away from the two-part charging regime i.e. a monthly fixed charge for access to the roaming facility and an airtime charge dependent on usage, to a simple usage based composite roaming tariff. The various charges which formed part of the ceiling tariff for National roaming were calculated on the basis of Interconnect

Usage Charges (IUC), Access Deficit Charge (ADC) and Incremental cost (CAPEX and OPEX) for roaming prevalent in 2006-07. The following table indicates the elements of cost taken into account for the calculation of call charges while roaming:

Cost component	Incoming (Rs./minute)	Outgoing local (Rs./minute)	Outgoing STD (Rs./minute)
Origination charge	-	0.30	0.30
Carriage	0.65	-	0.65
Termination	0.30	0.30	0.30
ADC	0.05	0.05	0.05
Incremental cost for roaming	0.75	0.75	0.75
Total	1.75	1.40	2.05
Ceiling fixed at	1.75	1.40	2.40*

* A higher ceiling of Rs.2.40 was fixed keeping in view the range of prevalent tariffs applicable for long distance calls from the home network. STD charges of Rs.2.40 per minute were prevalent at that time.

12. Further, as per TTO (44th Amendment), the charge for incoming SMS while roaming was fixed as nil while the charge for outgoing SMS was kept under forbearance.
13. It has been observed that prevailing call charges while roaming nationally are well below the ceilings prescribed by TRAI. The per minute charges currently levied by service providers for national roaming calls in own networks are generally Re.1 for an outgoing local call, Rs.1.50 for an outgoing STD call and Re.1 for an incoming call. Some tariff plans offer even lower call charges for national roaming. The prevailing charges for outgoing SMS are Rs.1.50 for local and national SMS while roaming. However, some service providers levy as much as Rs. 3.45 for outgoing local and national SMS while roaming.

14. Subscribers widely use special tariff vouchers (STVs) to avail free/ concessional usage in their home service areas. However, they cannot avail of such vouchers while roaming as the present tariff regime disallows STVs involving an upfront fixed charge for roaming services.

C- Need for Review of Tariff for National Roaming

15. Subsequent to issue of the Telecom Tariff (Forty Fourth Amendment) Order, 2007 dated 24th January 2007 prescribing the tariff for National roaming services, the regimes governing some of the cost components which form a part of the national roaming charges have undergone changes. Notably, the Access Deficit Charges (ADC) regime has been phased out through 'The Telecommunication Interconnection Usage Charges (Ninth Amendment) Regulations, 2008' dated the 27th March 2008. Further, the termination charges for local and national long distance voice calls were lowered from Re. 0.30 to Re. 0.20 per minute through the Telecommunication Interconnection Usage Charges (Tenth Amendment) Regulations, 2009. Also, while conducting cost exercises for determination of IUC charges, it has been noticed that the costs of the network elements deployed by the service providers are steadily declining with the passage of time and advancement of technology. This suggests that the current incremental cost for roaming is likely to be lower than the incremental cost for roaming prevailing in the year 2006-07. In sum, many of the cost components have seen a reduction since 2007 when ceilings for call charges for national roaming services were last prescribed.
16. The recently released National Telecom Policy-2012 (NTP-2012) also states as one of its strategies, review of roaming charges with the ultimate objective of removing the roaming charge across the nation.
17. In the light of the above, it is deemed necessary to undertake an exercise to review the framework for tariffs for national roaming.

D- The Present Review Exercise

18. The present review would require a detailed costing analysis, careful assessment of the state of competition and assessment of the impact that variations in the roaming tariff regime could have on the long term sustainability and viability of the telecom sector in the country. As an initial step, TRAI, on 26.10.2012, had asked the service providers to provide information on usage, revenue and cost in respect of the national roaming service. A copy of the letter sent to the service providers is placed at **Annexure**. The information received from the service providers is presently under examination. The Authority is contemplating the issue of a comprehensive Consultation Paper on review of tariffs for national roaming. Before issuing the Consultation Paper, the Authority considers it appropriate to seek inputs from stakeholders on the broad framework of tariff for national roaming through this Pre-consultation Paper. Some of the issues concerning the framework are listed below:

E- Issues for Pre-consultation

19. It may please be noted that answers/ comments to the issues given below should be provided with justification.

- (i) Should the present cost based approach for determining tariffs for national roaming continue?**
- (ii) In case your response to issue (i) is in the affirmative, what cost components should be included in the determination of such charges? You may also comment on the information sought by TRAI from the service providers in the proforma placed at Annexure.**
- (iii) In case your response to issue (i) is in the negative, what should be the alternative approach for determining tariff for national roaming? Please support your view with a detailed methodology.**

- (iv) After implementation of the calling party pays (CPP) regime, incoming calls are free for mobile subscribers while they are in their home service area. Under the CPP regime, the calling party's network compensates the called party's network for terminating the call on its network by way of interconnection charge viz. mobile termination charge. The calling party's network recovers the mobile termination charge from its own subscribers. However, the incoming calls while roaming are not free as the costs involved viz. carriage charge for carrying the call from the home network to the visited network, mobile termination charge for termination in the visited network, and the incremental cost for roaming have to be paid by the roaming subscriber who receives the call. In case the burden of these costs is removed from the roaming subscriber, these costs will remain unrecovered.

In your opinion, should the burden of the cost for the incoming call be removed from the roaming subscriber? If yes, how should this cost be recovered? Would removal of the burden of the cost for the incoming call while roaming lead to an increase in overall call traffic across the country?

- (v) Under the existing telecom licensing regime, licenses are issued separately for each service area. Service providers levy a roaming tariff for any usage by a subscriber outside the home service area. The visited network in which a subscriber is roaming is compensated by the home network in accordance with the terms and conditions of the roaming arrangement between them. While some service providers have a pan-India presence, others operate in only a few service areas. As per the existing terms and conditions of license, it is not mandatory for a service provider to enter into roaming arrangements with other service providers. Besides, there is no mandate on the terms and conditions of roaming arrangements. Therefore, it is possible for a particular service provider to demand a higher rate for allowing

roaming facility to the subscribers of other service providers. This situation results in the roaming subscribers having to pay a differential higher rate for off-net roaming. Traffic flows in terms of in-roaming and out-roaming are also asymmetrical between various service providers.

In your opinion, if the difference between the tariff while roaming and the tariff in the home network is done away with, how would such an arrangement operate within the framework of the present licensing regime? What are the likely issues that may arise upon its implementation?

- (vi) The TTO (44th Amendment) does not specifically prescribe the tariff for video calls while roaming. Recently the service providers have started offering video calls while roaming, the tariff of which is generally comparable to the tariff of video calls in the home service areas.

In your opinion, is there a need to prescribe a tariff for video calls while roaming? If your answer is in the affirmative, what methodology should be adopted for calculation of such tariff? In case cost based tariffs are to be prescribed, the service providers may kindly provide the cost data and costing methodology to be used.

- (vii) The TTO (44th Amendment) has not prescribed any ceiling for SMS while roaming except that the incoming SMS while roaming shall be free. The generally prevailing rates offered by the service providers are Rs.1.50 for a local/ STD SMS while roaming. In some cases, the charge for an outgoing SMS while roaming exceeds the corresponding charges for outgoing voice call while roaming.

In your opinion, should TRAI also prescribe a tariff for SMS while roaming? If your response is in the affirmative, what method of calculation for such tariff should be adopted? In case cost based tariffs are to be prescribed, the service

providers may kindly provide the cost data and costing methodology to be adopted.

(viii) The subscribers widely use special tariff vouchers (STVs) to avail free/concessional usage in their home service areas. As per the prevailing tariff framework, no fixed charge is permitted for accessing roaming service or in lieu of free/concessional roaming usage. The service providers could be permitted to offer special tariff vouchers (STVs) for roaming. Such tariff vouchers would be optional.

In your opinion, would it be appropriate to allow special tariff vouchers for roaming subscribers?

(ix) **Is there any other relevant issue related to 'tariff for national roaming' which the Authority should keep in mind while carrying out the proposed comprehensive review of the framework for tariff of national roaming services?**

Annexure



भारतीय दूरसंचार विनियामक प्राधिकरण
महानगर दूरसंचार भवन, जवाहर लाल नेहरू मार्ग,
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Fax : 91-11-23213294

No.: 301-10/2012-ER

Date: 26.10.2012

To,
All Wireless Telecom Service providers

Sub.: Calling for information in respect of national roaming services

The Authority is in the process of reviewing the tariffs for national roaming, which were specified in the year 2007. Towards, this, the Authority calls upon all the wireless telecom service providers to furnish information on cost, revenue and usage in respect of national roaming service under Section 12(1) of the Telecom Regulatory Authority of India Act, 1997.

2. In this regard, you are required to provide information on usage, revenue and cost in respect of national roaming service as per **Annexure-I** and **Annexure-II** enclosed herewith. The call routing diagrams for incoming, outgoing-local and outgoing-national calls while national roaming, applicable to your network, should also be provided along with illustrations and examples.

3. Please ensure that the afore-mentioned information reaches TRAI positively by the closing hours of the 10.11.2012. The soft copy of the information may also be e-mailed at raj.pal@nic.in.

Encl.: As above


(Raj Pal)
Advisor (F&EA)

Copy to:

1. COAI
2. AUSPI

Information on Usage and Revenue in respect of National Roaming service

(separate sheets for each service area and technology)

Name of the Wireless Service Provider				
Name of the Service Area				
Technology (GSM/CDMA)				
Period		Quarter ending March 2012		
S.No	Item			
1	Subscribers	Jan-12	Feb-12	Mar-12
1.1	No. of Subscribers - opening (as on beginning of the month)			
1.2	No. of Subscribers - closing (as on last day of the month)			
1.3	No. of national out-roamers during the month (An out-roamer who went out of the service area several times during the month should be counted only once.)			
1.4	No. of national in-roamers during the month (An in-roamer who came in the service area several times during the month should be counted only once.)			
2	Usage by home subscribers in home service area			
2.1	No. of incoming minutes			
2.3	No. of outgoing local minutes			
2.4	No. of outgoing STD minutes			
2.5	No. of outgoing ISD minutes			
2.6	No. of outgoing SMS			
3	Usage by national outroamers			
3.1	No. of incoming minutes			
3.2	No. of outgoing local minutes			
3.3	No. of outgoing STD minutes			
3.4	No. of outgoing ISD minutes			
3.5	No. of outgoing SMS			
4	Usage by national inroamers			
4.1	No. of incoming minutes			
4.2	No. of outgoing local minutes			
4.3	No. of outgoing STD minutes			
4.4	No. of outgoing ISD minutes			
4.5	No. of outgoing SMS			
5	Revenue from national out-roamers			
5.1	Gross Revenue from national out-roamers (in Rs.)			
5.2	Pass through charges			
5.3	Net revenue from national out-roamers (= item 5.1 minus item 5.2) (in Rs.)			
6	Revenue from national in-roamers			
6.1	Gross Revenue from national in-roamers (in Rs.)			
6.2	Pass through charges			
6.3	Net revenue from national in-roamers (=item 6.1 <i>minus</i> item 6.2) (in Rs.)			
7	Roaming settlement rates (in Rs./minute) with other operators (Please enclose AA14 document)			
7.1	For incoming call			
7.2	For outgoing local call			
7.3	For outgoing STD Call			
7.4	For outgoing ISD Call			
7.5	For outgoing SMS			
7.6	Any other type of call (please specify)			
8	Average period of roaming by an out-roamer during the period (in minutes)			
9	Average period of roaming by an in-roamer during the period (in minutes)			

Annexure-II

Information on CAPEX and OPEX Costs for providing National Roaming service

(separate sheets for each service area and technology)

Name of the Wireless Service Provider			
Name of service Area			
Technology (GSM/CDMA)			
Period		F.Y.	
		2011-12	
A CAPEX Costs as on 31.03.2012			
S.No	Item	CAPEX Cost (in Rs.)	Useful life (in years)
1	Additional equipment/ application in billing system to support roaming service		
2	Connectivity resources e.g. routers, modems etc. (Please give details)		
3	Additional application in the MSC, if any, on account of national roaming service		
4	Other costs attributable to national roaming service, if any (Please give details)		
B Annual OPEX Cost for F.Y. 2011-12			
S.No	Item	Amount (in Rs.)	
1	Annual cost of leased Lines for transferring TAP files		
2	Annual cost payable to clearing House for validation of TAP files		
3	Annual cost for financial clearing and Fraud management		
4	Other costs attributable to national roaming service, if any (Please give details)		
C Licence fee and Spectrum Fee in F.Y. 2011-12			
S.No	Item	Amount	
1	Applicable licence fee (%age) (please indicate as a % of AGR)		
2	AGR for the purpose of calculation of licence fee for F.Y. 2011-12 (in Rs.)		
3	Applicable Spectrum fee (%age) (please indicate as a % of AGR)		
4	AGR for the purpose of calculation of spectrum fee for F.Y. 2011-12 (in Rs.)		