Consultation Paper No.16/2006

Telecom Regulatory Authority of India

Consultation Paper

On

Review of Ceiling Tariffs for Roaming Services

24th November, 2006

Last date for submission of comments by stakeholders

14.12.2006

Preface

Roaming Services in cellular telephony were brought under tariff regulation in the year 2002 for the first time when the Authority found that the market for roaming services was lacking in competition. Cost based ceiling tariffs in the form of monthly rental and roaming airtime charges were fixed in the year 2002. Subsequently, representations received by the Authority from time to time from stakeholders indicate that despite intense competition in voice telephony in general in the cellular mobile services, competition does not appear to be sufficient in the roaming services market even now. The Authority also found that there are justifiable grounds for a review of the tariff structure applicable for roaming services as determined in the year 2002.

2. With a view to revisit the tariffs applicable for roaming services, the Authority obtained cost estimates in respect of providing roaming services by cellular mobile operators. The Authority has also noted a number of significant developments that have taken place during the last four years which include fixation of cost based Interconnection Usage Charges (IUC), periodical review of that regime resulting in reduction of carriage charges, regime change with respect to Access Deficit Charges (ADC), reduction in the applicable license fee payable by the operators on the Adjusted Gross Revenue (AGR) and the explosive growth of subscriber base and the resultant growth in minutes of usage. These factors have implications for tariffs for roaming services.

3. Keeping in view these factors and the currently prevalent roaming tariffs in the market, the Authority has proposed a tariff structure for national roaming services and has raised certain issues relating to roaming services in general in this Consultation Paper.

4. All stakeholders are invited to participate in this consultation process by providing their comments/suggestions on each of the issues raised in the Consultation Paper.

5. The paper has already been placed on TRAI's website (www.trai.gov.in). Written submissions containing specific comments on the issues raised may be furnished to Secretary, TRAI by 14th December, 2006. Submissions in electronic form would be appreciated. For further clarifications, Shri M. Kannan, Economic Advisor, TRAI may be contacted on Telephone No.+91-11-26160752/+91-11-23230752, Fax Nos.+91-11-26103294/+91-11-23213294; email: mkannan05@gmail.com.

(Nripendra Misra)
Chairman

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Introduction

Background

1.1 Telecom Regulatory Authority of India (hereinafter to be referred as Authority) had fixed tariffs applicable for national roaming services in the form of a ceiling in the year 2002 vide 18th Amendment to the Telecommunication Tariff Order (TTO), 1999. The Authority is now in receipt of representations regarding high roaming charges levied by the service providers for the provision of roaming facility to the consumers. The Authority examined these and is of the view that there is a case for revisiting ceiling tariffs fixed by it for roaming services in 2002. Integral to its review, the Authority studied the prevalent roaming tariffs in the market and analyzed the state of competition in the roaming services market. The review has revealed that the market for roaming services is not sufficiently competitive as compared to the competition witnessed in the voice telephony in mobile services market in general. The Authority also obtained data on cost of providing roaming services from various mobile service providers. Our examination unfolds that as compared to the underlying cost of providing roaming services, the applicable charges levied by operators are on the higher side. The representations from the consumers merit consideration. A further cause of user and consumer concern is the lack of transparency to the consumer about the charges and the charging pattern for availing roaming services. The objective of this exercise initiated by the Authority is not only to revisit the ceiling tariffs applicable for roaming services but also to address competition enhancing measures in the roaming services market.

1.2 Roaming is defined as the ability for a cellular subscriber to make and receive voice calls and data services and also to 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. If the visited network is outside the home country, it is known as international roaming. In the Indian context, in view of its legacy licensing system, geographic area covering a circle (generally co-terminus with a State) is the licensed service area unlike many countries of the world where the entire country is treated as one license service area.

1.3 At present, tariffs applicable for National Roaming Services are regulated in the form of ceiling tariffs that were fixed by the Authority vide 18th Amendment to Telecommunication Tariff Order (TTO) dated 30.1.2002. The various elements of charge for roaming mandated by the Authority through the said order are monthly rental for national roaming at Rs.100 (ceiling), roaming airtime charge of Rs.3.00 per minute (ceiling), a surcharge at 15% on airtime component (ceiling) and PSTN charges as applicable from time to time to the fixed network. Tariffs for international roaming services are under forbearance.

1.4 Consequent upon implementation of the cost based Interconnection Usage Charge (IUC) regime, the Authority vide its letter dated 14.5.2004 clarified that PSTN charge provided for in the tariff order would mean the IUC charges i.e. carriage + termination + ADC for various distance slabs as provided in the IUC Regulation (copy at Annexure-1).

1.5 This Consultation Paper has been brought out to facilitate discussion with stakeholders on various issues like, the currently prevalent roaming tariffs in the market, the state of competition in the roaming services market, significant developments that have taken place since the issue of tariff order mandating ceiling tariff for roaming services, and various aspects of tariff regulation of roaming services. The Authority seeks the comments and views of stakeholders on the issues raised in this Consultation Paper before taking a final view on the subject. The structure of the Consultation Paper is as follows:-

Chapter 1 : Gives an overview of the general context including the existing tariff regime governing roaming services in the country.

Chapter 2 : Currently prevalent roaming tariffs, charging pattern and its analysis.

Chapter 3 : Need for review of roaming tariffs.

Chapter 4 : Methodology of cost estimation

Chapter 5 : Proposed roaming tariff structure.

Chapter 6 : Summary of issues for consultation.

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Chapter 2

Currently prevalent Roaming Tariffs, charging pattern and its Analysis

2.1 Tariffs for national roaming services are in two parts – one being the monthly rental and the other being the call charges while roaming.

Roaming Rental

2.2 Currently service providers generally levy a monthly rental of about Rs.50 for providing access to National Roaming Services as against the ceiling rental of Rs.100/- per month fixed by the Authority in the year 2002.

Roaming Call Charges

2.3 Charging pattern adopted by service providers for national roaming calls currently is in the form of composite tariffs which is all inclusive i.e. roaming air time charge, IUC/ADC, surcharge. Roaming tariffs currently prevalent can be better appreciated if the following possible call scenarios are kept in view:

a) For outgoing local call while roaming

b) For outgoing inter-circle call while roaming

c) For incoming call while roaming

(b) and (c) above are further classified into different distance slabs. Table No.1 below gives the currently prevalent roaming call charges as offered by various operators in respect of general tariff packages both in prepaid and postpaid platforms.

Table No.1

Currently prevalent Composite Roaming Call Charges

[Rs. per minute]

Distance slabs	Private GSM service providers	BSNL (GSM)
Outgoing call while Roaming		
Local	2.89 - 3.09	1.50
Inter-Circle		
0-50 Kms	3.09	2.40
51-200 Kms	3.54	2.40
201-500 Kms	3.79	2.40
Above 500 Kms	3.99	2.40
Incoming call while Roaming		
0-50 Kms	3.09	2.00
51-200 Kms	3.54	2.00
201-500 Kms	3.79	2.00
Above 500 Kms	3.99	2.00

Note: Major GSM/CDMA operators are offering plans with a monthly rental (ranging from Rs.299 to Rs.490) for roaming customers. In these plans, roaming tariff is Re. 1 per minute for roaming in their respective network.

Local Outgoing call while Roaming

2.4 The private GSM operators levy tariff ranging from Rs.2.89 to Rs.3.09 per minute for a local call while roaming. There is no distinction in roaming call charges between prepaid and postpaid subscribers in as far as the private GSM operators are concerned. BSNL (GSM) charges Rs.1.50 per minute for a local outgoing call while roaming. This tariff is common both for prepaid and postpaid roaming subscribers. In lifetime plan, BSNL levies a higher tariff of Rs.2/- per minute for a local call while roaming.

2.5 In the case of two CDMA operators offering full mobile services i.e. Tata Teleservices and Reliance Communications, roaming call charges for local outgoing calls are different depending upon whether the subscriber is in prepaid or postpaid platform. For postpaid subscribers, roaming call charges for local outgoing calls levied by CDMA operators are the same as the applicable tariffs for home network usage. In the case of prepaid subscribers, the applicable tariffs generally range from Re.1 to Rs.3.00 per minute. However, in few long term validity plans, roaming tariffs for local calls are more than this range.

Inter-Circle Outgoing Call while Roaming

2.6 Private GSM operators offer a distance based roaming tariffs applicable for inter-circle calls. It ranges from Rs.3.09 per minute for a distance slab of 0-50 kms to Rs.3.99 per minute for a distance slab of above 500 kms.

2.7 BSNL (GSM) offers its roaming subscribers a distance neutral roaming tariff applicable for inter-circle calls at the rate of Rs.2.40 per minute. For lifetime plan subscribers, the applicable tariff is Rs.3/- per minute.

2.8 In the case of private CDMA operators they levy a distance neutral inter-circle tariff that ranges from Rs.1.00 to Rs.3.99 per minute while roaming. The applicable inter-circle roaming tariff for postpaid subscribers is linked to the home network tariff plans.

Incoming Call while Roaming

2.9 Depending upon the distance slabs, charges for an incoming call while roaming vary from Rs.3.09 to Rs.3.99 per minute among the private GSM operators. BSNL (GSM) levies a uniform tariff of Rs.2.00 per minute for all incoming calls while roaming except for lifetime plan subscribers at Rs.3 per minute. Private CDMA operators levy a distance neutral inter-circle incoming roaming tariff that ranges from Rs.1.00 to Rs.3.99 per minute.

Special Tariff Packages

2.10 Service providers have offered special tariff packages where roaming tariffs are much less when subscribers roam on their networks. However, such tariff packages attract higher monthly rent of Rs.300 and above. These packages offer a uniform tariff at Re.1.00 per minute for all types of roaming calls including incoming calls *provided* the subscribers choose to roam on their *own* network.

SMS Charges while Roaming

2.11 Private GSM operators levy Rs.3.45 as charges for outgoing SMS while roaming. BSNL (GSM) levies a tariff ranging from Re.0.80 to Re.1.00 per message from the roaming subscriber. As far as the CDMA operators are concerned, the charges applicable for an outgoing SMS while roaming would be the same as per the home tariff plan. For lifetime plan subscribers of BSNL, SMS costs Rs.2/- per SMS while roaming.

Analysis

2.12 The analysis of the existing charging pattern of the service providers and the currently prevalent tariffs for roaming reveals the following:-

a) The roaming tariff structure as prevalent in the market is complex and thus there is considerable scope for making it more transparent to the consumer.

b) There is not only a uniformity seen in the charging pattern adopted by private GSM operators but there is also uniformity in the level of roaming tariffs. Current charging pattern amongst them reveals that they adopt a distance based charging for roaming calls including incoming calls while roaming. This is an evidence of a coordinated pricing arrangement among these operators.

c) Full mobile services using CDMA technology are offered by two operators viz. Tata Teleservices and Reliance Communications. The roaming tariff structure in CDMA mobile services is linked to home network tariff plans in respect of postpaid subscribers. For prepaid customers, roaming tariffs are not linked to the home tariffs.

d) Off late, CDMA operators have hiked tariff applicable for roaming services and in few cases their tariffs exceed that of private GSM operators. Charging pattern of CDMA operators in respect of roaming calls varies from prepaid to postpaid.

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Chapter 3

Need for Review of Roaming Tariffs

3.1 For quite some time now, stakeholders have been representing to the Authority that tariffs applicable for availing roaming services are on the higher side. The roaming tariffs fixed by the Authority in 2002 was based on the incremental cost of providing roaming services as it existed four years ago and since then substantial reduction is reported to have taken place in such costs. Reduction in tariffs for roaming services is not commensurate with the reduction in the underlying costs of providing services.

3.2 Table No.2 gives the trends in composite roaming charges (with break-up) as levied by private GSM operators from time to time since February 2002 when the ceiling fixed by the Authority came into effect.

Table No.2
Trends in Composite Roaming Charges

(Rs. per minute)

Time Period	Roaming Airtime Charge	Surcharge	PSTN Charge (applicable for >500 kms distance slab)	Composite Roaming Charges for the subscriber
February 2002 (ceiling as per 18th Amendment)	3.00	15%	9.6	13.05
March 2003 (reduction in PSTN charges)	3.00	15%	4.8	8.25
May 2004 (change in interpretation of applicable PSTN charges	3.00	15%	2.2	5.65
February 2005 (reduction in ADC)	3.00	15%	1.7	5.15
May 2005	1.99	15%	1.7	3.99
Currently prevalent tariffs**	2.99		1.0*	3.99

* Re.1/- is arrived at by summing up maximum carriage charge of Re.0.65, termination charge of Re.0.30 and approx. ADC component of Re.0.05 per minute.

** Pvt. GSM service providers report Rs.3.99 composite roaming tariffs as applicable for distance slab of 500 kms and above.

3.3 Trends in the composite roaming charges levied by private GSM operators since February 2002 would indicate clearly that all reductions that had taken place till February 2005 were mainly on account of reduction in the PSTN charges mandated by the Authority from time to time. Service providers did not at any point of time reduce the roaming airtime charge or the surcharge on roaming airtime. They have always been operating at the ceiling fixed. The only exception being the reduction of Re.1 per minute in the roaming airtime charge made by them in May 2005. Even this reduction has been almost nullified by the operators when they reported Rs.3.99 per minute as the applicable composite tariff for the distance slab of 500 kms and above (see last row of Table No.2)

3.4 Reduction in the cost of providing roaming services including reduction on account of access deficit charge payable by operators on account of movement to revenue share regime of ADC payment does not appear to have been passed on fully by service providers to customers. Similarly, reduction in carriage charge effected by the Authority in its recent determination of IUC regulation dated 23.2.2006 does not appear to have been fully reflected in the retail tariffs applicable for long distance calls and roaming services. Further, the reduction in annual license fee payable by NLDOs from 15% of Adjusted Gross Revenue (AGR) to 6% of AGR effected by the Government, which is one of the major opex items of costs has not been passed on to the consumers by the operators. Some operators have in fact hiked the tariffs applicable for roaming services during recent months which suggests that roaming services market is not sufficiently competitive. Barring few service providers, generally every operator levies a higher tariff for SMS while roaming, which does not appear to reflect the cost of providing such a service.

3.5 The Authority from time to time has attempted to stimulate competition in the market by enhancing consumer transparency through various directions and advisories issued to operators mandating them to publish tariff inter-alia roaming tariffs in their websites and through other means. However, imposition of such regulatory obligations does not appear to have had any salutary effect on the subscriber tariff for national roaming services in the market. This is mainly on account of the market not being sufficiently competitive in respect of roaming services.

Analysis of the State of competition in roaming services segment

3.6 While competition is considered to be adequate in mobile telephony services in India, the same is not true of roaming services segment of the mobile telephony. ***Evidence available with Authority on subscriber's tariff for roaming services reveal that there appears to be a coordinated arrangement in pricing of roaming services among the private GSM service providers.*** Tariffs applicable for roaming services are not only uniform among these operators for various types of roaming calls but are also similar / identical for various distance slabs as well. Further, in many instances in the past, changes in roaming tariff had been effected almost simultaneously.

3.7 CDMA mobile operators admittedly have contributed to the enhanced level of competition in mobile telephony in a big way. However, as far as roaming services is concerned, the competition is not considered effective enough due to the fact that the roaming service available to the subscriber of CDMA network is limited to the CDMA network of the same operator. Over a period of time, CDMA service providers have also started levying comparable roaming tariffs as that of the private GSM operators.

3.8 The ceiling tariffs fixed vide 18th Amendment to TTO dated 30.1.2002 is outdated in the sense that significant developments have taken place since then in the market, all of which have implications for tariffs to the consumers. Notable among them being the decline in the cost of provision of service owing to explosive growth of subscriber base and the minutes of usage reported by mobile operators in general. Data reported to the Authority for select operators shows that the number of subscribers with roaming facility has increased manifold during the period from 2001 to 2004. For the same period, the roaming minutes of usage has registered steep increase as per the data reported to the Authority. Another significant development since the time the roaming tariff was fixed in 2002 pertains to the introduction of cost-based IUC regime in 2003 which inter-alia includes specification of termination charges at Re.0.30 per minute and introduction of calling party pays (CPP) regime. Further, the cost based IUC regime is being revised from time to time since 2003. One other major development having implications for consumer tariffs including roaming services is the change of regime of the ADC payment from per minute call basis to a revenue share regime. As discussed in the earlier paragraphs, reduction in the cost of provision of services does not appear to have been fully reflected in the roaming tariffs applicable to subscribers.

3.9 Price regulation is considered relevant when market forces are insufficient to prevent the exercise of market power. The considerations that were responsible for regulatory intervention in the market by imposing tariff regulations in roaming services are not only relevant today but have also become more important for reasons discussed in the foregoing paragraphs. Consumers cannot be expected to pay prices for services that are unjustifiably higher than the cost of providing such services and also with no prospects of any internal correction.

3.10 One of the operators with significant market share conveyed its scheme for additional revenue share over and above the prescribed termination charge for terminating the roaming calls (national and international) in its network and sought a provision for entering into commercial agreements with other operators on reciprocal basis. The Authority after going through a consultation process on this issue gave its ruling vide its letter dated 11.9.2006 (copy at Annexure-2) wherein it reiterated that there was no justification for a revenue sharing arrangement among operators in respect of roaming calls including international ones. Nevertheless, the Authority reiterated its concern about high roaming tariffs levied by service providers and indicated that it would in the near future consider issuing a consultation paper to review the present roaming tariff regime.

3.11 A further cause of user and consumer concern is that roamers pay charges for receiving mobile calls while they are roaming contrary to the calling party pays (CPP) principle. This observation is relevant in the Indian context because the "service area" in India is based on circle basis, unlike many countries in the world where the entire country is one service area.

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Chapter 4
Methodology of Cost Estimation

Methodology proposed for determination of Roaming Tariffs

4.1 The 18th Amendment to TTO adopted an incremental cost approach while deciding the tariff regime applicable for national roaming. Only the directly attributable incremental costs associated with roaming facility was taken into consideration. The approach proposed to be adopted by the Authority for determination of costs in this exercise will also be the same. It is proposed to consider the same set of elements of capital costs and operating costs that had been taken into account by the Authority while determining the roaming tariffs in 2002.

Data Consistency and Verification

4.2 The Authority vide its letter No.301-27/2004-Eco. dated 29.6.2004 informed all the cellular mobile service providers and their industry associations about its intention to review roaming tariffs which were specified in January 2002. Accordingly, it sought revenue and cost data in respect of roaming services as per standard format (Annexure-3) from the service providers. Data on cost of providing roaming services was received from operators for two years (FY 2002-03 and 2003-04) in respect of 25 licensees across the country covering metro and non-metro circles. Examination of the data received from operators shows that data in respect of few licensees was not amenable for analysis of cost for a number of reasons like inconsistencies in respect of data for certain parameters, absence of any specific basis of apportionment, etc. and thus these had to be excluded from analysis.

Capital Expenditure (capex) Recovery

4.3 Two factors are considered when calculating the required annual return to the licensee for estimating the cost of providing the service over and above the recovery of operational expenditure. These are recovery of depreciation on assets and return on capital employed (ROCE) which is also known as weighted average cost of capital (WACC). Since capital assets are in the form of equipment, there is a need to devise a mechanism for recovery of the capex over a period of time, besides providing for opex (discussions on this follow later). Towards this end, an annual depreciation rate of 10% has been assumed for capex recovery of capital assets. This is derived from straight line depreciation calculations on the life of capital assets of ten years. Suggestions by industry sources indicate that the depreciation period for equipments which are considered as capital assets in this service could be longer than considered above, thereby reducing the annual return required. However, in general, depreciation calculated at 10 years life period could be taken as reasonable basis for calculation. The second part of capex recovery is setting the value for ROCE, which will be applied to the total capital expenditure amount claimed by the licensees and is treated as the required annual return on the capital invested and employed. A WACC of 14% has been adopted for this exercise based on the data submitted by the operators. This is almost the same WACC as was adopted by the Authority in the recent past tariff determinations. In this exercise, the Authority has allowed reasonable rate of return on net capital invested in various network elements to provide the roaming services as at the end of March 2006. To arrive at the net capital investment, the accumulated depreciation from the original capital investment in various network elements has been deducted as per their base years.

Operational Expenditure (opex)

4.4 All the items of operational costs claimed by operators as operational expenditure required to be incurred for providing the facility of roaming services that are consistent with the heads of expenditure that had been allowed by the Authority in its previous determination in the year 2002 have been included in the estimation of costs.

4.5 Based on the data on total capital expenditure attributable to roaming facility as claimed by service providers, capex recovery for FY 2006-07 was arrived at by applying cost of capital at 14% per annum after adjusting for applicable depreciation as described above. Separately, opex recovery was effected based on data in respect of annually recurring operating expenditure and the roaming minutes of usage as provided by the operators. To this cost, license fee and spectrum charges at 10% were also added as these are annually payable charges and form part of the costs. It is noteworthy that license fee and spectrum charges considered for purposes of cost calculation in the roaming tariff determination of 2002 was 15% of AGR.

4.6 The analysis of data on costs in respect of various operators in respect of the two part costing exercise reveals that it may be necessary to derive the incremental cost arising out of roaming services covering both capex and opex. The necessity of deriving incremental cost of a roaming call in this manner is discussed in the following paragraph.

4.7 Separate estimates for determination of monthly rental and roaming call charges do not appear to be realistic in the present context on account of the asymmetrical distribution of In-roaming Minutes of Usage and the subscriber base availing roaming facility across operators.

Data available indicates that the total number of in-roamers into the network of an operator in a particular service area is several times that of the number of subscribers who have availed roaming facility on payment of monthly rentals in the same service area of the same operator. If monthly rental has to be determined purely based on the number of subscribers with roaming facility, then the cost will be disproportionately loaded on such roaming subscription resulting in high rental amount. Such a situation would be iniquitous and thus unfair as it does not distinguish between subscribers availing one-off roaming usage and other frequent roamers. In fact, the two part cost determination, one covering the capex recovery through monthly rental and another for meeting the opex recovery through usage charges is throwing up results indicating the anomaly described here. On the contrary, incremental cost estimates covering both capex and opex together for operators have yielded robust results providing reasonable range of costs.

4.8 For this purpose the recovery of capex and the opex were added for each of the licensee and an incremental cost of roaming call per minute was derived. Table No.4 below gives the summary position of incremental cost estimates of a roaming call per minute for each of the licensee.

Table No.4

Summary of Calculations of Incremental Cost Estimates for Roaming Service for the FY 2006-07

(Re. per minute)

Service Provider	Base Year	
	FY 2002-03	FY 2003-04
Licensee – 1	0.92	0.76
Licensee – 2	0.56	0.26
Licensee – 3	0.26	0.24
Licensee – 4	0.38	0.25
Licensee – 5	0.69	0.48
Licensee – 6	0.41	0.42
Licensee – 7	1.18	NA
Licensee – 8	0.22	0.33
Licensee – 9	NA	0.07
Licensee – 10	1.12	0.62
Licensee – 11	NA	0.48
Licensee – 12	0.64	0.24
Licensee – 13	0.66	0.37
Licensee – 14	3.30	1.09
Licensee – 15	0.31	0.19
Licensee – 16	NA	0.27
Licensee – 17	0.35	0.23

Results of cost estimation

4.9 The lowest of the cost estimates is Re.0.07 per minute and the highest of the cost estimates is placed at Re.1.09 per minute. These are obviously outliers as is evident from Table No.4. Range of cost estimates fall between Re.0.19 to Re.0.62 per minute barring one estimate at Re.0.76 per minute shown against Licensee 1. Seven out of seventeen licensees cost estimates show that it is hovering around Re.0.25 per minute. Cost estimates in respect of five licensees fall within the range of Re.0.30 to 0.50 per minute. As stated earlier, two estimates are clear outliers i.e. Rs.1.09 and 0.07 per minute and two other estimates at Re.0.76 and 0.62 per minute are also outside the two commonly found range of cost estimates.

4.10 The Authority has also noted that between the two years for which cost estimates have been worked out based on the cost data of the operators, there has been a substantial decline of costs in the second year (see Table No.4). Extent of decline in the cost per minute for a roaming call within a period of one year ranges from 5% to as high as 67%. Explosive growth of subscriber base coupled with increase in usage of subscribers shall in the views of the Authority justifiably accelerate the decline in the cost of providing roaming services. Further, the Authority also notes that the traffic data (roaming MOU) considered for the analysis for purposes of roaming tariff review in this exercise pertains to the FY 2003-04 and the likely implementation period of the revised roaming tariff structure would begin in the fourth quarter of 2006-07. To that extent, the estimates of incremental cost derived contains a buffer element.

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Chapter-5

Proposed Roaming Tariff Structure

5.1 The underlying principles that guided the Authority in the prescription of the proposed roaming tariff structure in cellular mobile services are discussed in the following paragraphs. These principles are:

i. Cost basis to the tariff structure
ii. Transparency and simplicity
iii. Flexibility to operators

5.2 Tariff fixation of the Authority for telecom services has always been based on the underlying cost in the provision of services. Consumers should not be expected to pay more than the cost incurred by operators in providing services particularly when competition in the market is not found to be sufficiently competitive.

5.3 Transparency and simplicity are guiding principles of the Authority in laying down tariff framework that is applicable at subscriber level. Towards consumer transparency, the Authority has taken a number of steps in the past. In this tariff framework applicable for roaming services also, the Authority has considered it essential to ensure that the tariff for roaming services shall not only be cost based but also simple and easy to understand. Towards this end, in the proposed tariff structure for roaming services, the Authority has given utmost importance to the principle of transparency in the tariff offerings that may emerge out of the framework that is being put in place by the Authority for roaming services in cellular mobile telephony services.

5.4 Ceiling tariff framework provides for play of market forces within the overall ceiling fixed. While it is acknowledged that the roaming services segment of the mobile service in India is not sufficiently competitive, there may still be certain situations where operators hopefully might be encouraged to offer competitive tariffs. For example, the Authority has not distinguished higher distance slab from the lower distance slab when it had fixed ceiling carriage charge in its IUC determination vide Regulation dated 23.2.2006. Since IUC covers the underlying cost of providing a long distance services, roaming tariffs involving long distance leg, has also to reflect the same ceiling carriage charge. To that extent, operators have the flexibility to offer different roaming tariffs within the overall ceiling proposed to be prescribed. Operators, who have presence in many circles, may offer concessional tariff for roaming services to subscribers who roam on their own Network. This trend is already prevalent to a large extent in the local and STD tariffs offered by service providers.

Proposals

5.5 Based on the analysis contained in the Chapter 4, the Authority proposes to revise the existing roaming tariff by fixing a ceiling Tariff for roaming services based on usage. It means that there shall be no rental component for availing roaming services and there shall only be a composite roaming tariff on a per minute basis. Discussions contained in the earlier chapter would reveal that the capital cost component has also been subsumed in the incremental cost estimates attributable to roaming and thus no category of costs has been left out. Thus what remains to be done is to evolve a roaming tariff structure for the following call scenarios while roaming:-

a. Incoming call while roaming – Local
b. Incoming call while roaming – Long Distance (inter-circle)
c. Outgoing call while roaming – Local
d. Outgoing call while roaming – Long Distance (inter-circle)

Incoming call while roaming – Local

5.6 Diagram – 1 (Annexure-4) depicts routing of local incoming call while roaming. It suggests that all incoming local calls are routed through the home network and involves usage of trunk resources besides other usage of network elements. Calls get forwarded from the home network of the roaming subscribers to the visited network. In this situation, there is an involvement of carriage of call from home network of the roaming subscriber to visiting network and termination charge at the visiting network. Keeping in view "the work done" in respect of local incoming call while roaming, the total cost of providing this service which enables the roamer in the visiting network to receive an incoming local call, comprises of the following components of cost category:-

- Carriage
- Termination
- Access Deficit Charges
- Incremental cost for roaming services.

Incoming call while roaming – Inter-Circle

5.7 Diagram – 2 (Annexure-5) depicts the routing of the long distance incoming call while roaming. The incoming call might have originated either in the home network or in the third network other than the home and visiting network. Nevertheless, work done in this scenario is similar to the one discussed in scenario (a) above. Therefore, the underlying cost of the services to enable the roamer to receive the incoming call is covered by the carriage charge, termination charge, ADC and incremental roaming cost.

5.8 At the time of issue of 18th Amendment to TTO dated 30.1.2002, Receiving Mobile Party Pays regime was prevalent in the country. At that time mobile subscriber was paying for all incoming calls. Subsequently Calling Party Pays (CPP) regime was implemented w.e.f. 1st May 2003. In CPP regime, the called subscriber does not pay for incoming calls. But a roaming subscriber pays for incoming call charges because carriage of call from one circle to another circle is involved. In addition, for completion of a call apart from originating service provider (other than home network) two mobile networks (Home and Visiting networks) are involved. To that extent extra termination charge is involved. On the other hand, home network is not paging his roaming subscriber. To that extent, there is a saving of Radio Network usage and the underlying cost involved. One view could therefore be that while considering the ceiling for incoming calls for roaming in a CPP regime, these factors are to be kept in mind.

Outgoing call while roaming – Local

5.9 Diagrams – 3 & 4 (Annexure-6) depict the routing of the local outgoing call while roaming. This call scenario does not involve usage of trunk resources. Cost of provision of the local call while roaming therefore, involves the following elements:-

- Origination
- Termination
- Access Deficit Charges
- Incremental cost for roaming services

Outgoing call while roaming – Inter-Circle

5.10 Diagrams – 5 & 6 (Annexure-7) depict the routing of the inter circle outgoing call while roaming. The outgoing call while roaming may be to the home network or to any third network. The underlying cost of services incurred by the service providers to enable the roamer to make an outgoing call is covered by the origination charge, carriage charge, termination charge, incremental roaming cost and ADC.

Alternate Proposal

5.11 One other alternate view towards evolving a roaming tariff structure relates to introduction of 'Home Pricing Rule'. Under this Home Pricing approach, a Delhi mobile subscriber, for example, roaming in Mumbai and making a local call, i.e. a call to a Mumbai circle number would be charged a rate not exceeding the rate (as charged by his or her home network) for a local call in Delhi. Similarly, an outgoing STD call while roaming will also be priced in the same manner. In this approach, then there may be a demand for not levying any charge for an incoming call while roaming because while in the home network the mobile subscriber is not required to pay for incoming calls in view of CPP regime. If this approach is adopted, then this will be a movement away from cost based tariff determination for roaming services.

Non-applicability of surcharge

5.12 In the existing regime (18th Amendment to TTO), a surcharge on airtime component of 15% is specified. It is proposed to remove the surcharge in the roaming tariff structure. This is justified on the grounds that the IUC regulation that exists now provides for mobile termination charge based on cost and the home network gets termination charge in respect of calls forwarded to its roaming subscribers which was not available when surcharge was specified under the 18th Amendment to TTO. Specification of cost based IUC would render the rationale for envisaging the surcharge redundant. The Authority is of the view that when all costs relevant for provision of roaming services, have been taken into account, there exists no justification for levy of surcharge.

No Additional charge for SMS in roaming

5.13 Outgoing Short Messaging Services while roaming within the country are charged by operators. This charge is Rs. 3.45 per message in respect of private GSM operators. BSNL charges Re. 0.80 to Re. 1.00 per message. In the case of CDMA operators like Reliance Communications and TATA Teleservices the outgoing SMS charges are as per the subscriber's Home Tariff Plan rates.

5.14 The incremental cost associated with providing the facility to a roaming subscriber for sending an outgoing message or receiving an incoming message is either nil or at the best very marginal. Moreover, all the cost (capital and operating) associated with the provision of roaming services have already been taken into account in arriving at the cost estimates of incoming and outgoing roaming calls. Therefore, there appears to be no justification for providing additional charge to be levied for the SMS while roaming. In view of this, it is proposed to mandate (a) outgoing SMS while roaming shall not attract any charge other than the one applicable in the home network usage. (b) Incoming SMS shall attract ***nil*** charges while roaming.

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Chapter 6

Issues for Consultation

1) Should the Authority fix an usage based composite ceiling tariffs for national roaming services separately in respect of outgoing call – local, inter-circle and for incoming calls – taking into account the incremental roaming cost (as explained in Chapter 4) and the interconnection usage charges/ADC involved in the provision of roaming services?
2) In the alternative, should the Authority adopt the 'Home Pricing Rule' for all types of calls while roaming as contained in para 5.11?
   (a) If yes, give justification.
   (b) If not, give reasons.
3) Should there be any surcharge on national roaming tariffs in any form in the context of the discussions contained in para 5.12? If yes, please give justification.
4) Should the outgoing SMS while roaming attract any tariff other than the one applicable in the home network usage?
5) What are the factors that limit competition in roaming services market in India and suggest measures for facilitating enhanced competition in that space?

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Annexure-1

भारतीय दूरसंचार विनियामक प्राधिकरण
ए–2/14, सफदरजंग इन्क्लेव, नई दिल्ली–110029
ई-मेल trai@del2.vsnl.net.in फैक्स : 91-11-26103294
TELECOM REGULATORY AUTHORITY OF INDIA
A-2/14, SAFDARJUNG ENCLAVE, NEW DELHI-110029
E-mail : trai@del2.vsnl.net.in Fax : 91-11-26103294

सत्यमेव जयते

No.310-7(28)/2004-Eco
Dated: 14th May 2004

To

All Mobile Service Operators / Unified Access Service Providers / COAI / ABTO (As per list attached)

Subject: Outgoing and Incoming charges for Postpaid and Prepaid Domestic In roamers in Circles and Metros

Sir,

The Authority has recently reviewed the roaming tariffs filed by various mobile operators with reference to the provisions of the Telecommunication Tariff (18th Amendment) Order, 1999 and The Telecommunication Interconnection Usage Charges Regulation (IUC), 2003. The 18th Amendment to TTO, inter-alia, prescribes ceiling tariffs for roaming viz; Airtime charge of Rs.3/- per minute + PSTN Charges as applicable + Surcharge @15% on Airtime component. The IUC Regulation, 2003 prescribes the Carriage, Termination and Access Deficit Charge per minute applicable for various calls.

2. The total roaming charges per minute shall not exceed the currently applicable ceiling of Rs. 3.45 (i.e. Rs.3/- + 15% surcharge) as provided in the 18th Amendment to TTO plus the IUC charges i.e. Carriage + Termination + ADC for various distance slabs as provided in the IUC Regulation. It is observed that the roaming tariff implemented by some operators for various distance slabs exceeds the above-prescribed limits. Any tariff which exceeds the above ceiling limits would be inconsistent with the provisions of TTO / IUC Regulation.

Contd....

-2-

3. In view of the above, all roaming tariffs that are not consistent with the prescribed ceilings as explained above shall stand intervened. All service providers are hereby advised to immediately restructure their roaming tariffs accordingly. A compliance report along with the revised roaming tariffs may be furnished to the Authority latest by 20.05.2004.

Yours faithfully,

(Dr. Harsha Vardhana Singh)
Secretary-cum-Principal Advisor

Annexure-2

Telecom Regulatory Authority of India
A-2/14, Safdarjung Enclave, New Delhi- 110 029

File No. 409-4/2006-FN **Date the 11th September 2006**

To,

All Service Providers/ Stakeholders (Through Website)

Subject: Consultation Paper No. 12/2006 dated 16th June 2006 on "Admissibility of Revenue share between Visiting Network and Terminating Network for Roaming Calls" – Decision of Telecom Regulatory Authority of India (TRAI)

TRAI (hereinafter referred as Authority) had issued a Consultation Paper No. 12/2006 dated 16th June 2006 on the issue of "Admissibility of Revenue share between Visiting Network and Terminating Network for Roaming Calls." Comments were received from various stakeholders on the issues raised in the Consultation Paper. An Open House Discussion with the Stakeholders was held at New Delhi on 17.07.2006.

2. Having considered the opinion of various stakeholders contained in their written submissions, the views expressed by them in the Open House Discussion and other relevant facts, the Authority reiterates that there is no justification for a revenue sharing arrangement among operators in respect of roaming calls (National & International). The Authority's earlier decision that terminating operator should get only the termination charge as prescribed in the IUC Regulation, is reconfirmed.

3. The detailed analysis leading to the above decision is attached as **Annex-I**.

4. As the issue of revenue share between visiting and terminating networks has been specifically visited by the present consultation paper, it will be just and fair to make this decision of the Authority effective from the date of this order. All the service providers are advised to comply with the above decision and report compliance to the Authority latest by 11.10.2006.

5. This issues with the approval of the Authority.

Yours faithfully,

(S.N. Gupta)
Principal Advisor (FN)

Annex-I

TRAI's Analysis on admissibility of revenue sharing between Visiting and Terminating Network for roaming calls.

Interconnection Usage Charges (IUC) Regulation dated 29th October 2003, (hereinafter referred as 'Regulation'), prescribes uniform termination charge @ Rs. 0.30 per minute for all types of calls. TRAI's (hereinafter referred as Authority) Regulation stipulates that "Termination charge for calls to Basic (Fixed, WLL (Fixed) and WLL with limited mobility) and Cellular networks would be **uniform @ Rs. 0.30 per minute**. The same termination charge would be applicable for all types of calls viz. Local, National Long Distance and International Long Distance."

2. One of the operators with significant market share conveyed its scheme for additional revenue share, over and above the prescribed termination charge for terminating the roaming calls in its network. It also sought commercial agreements with other operators on reciprocal basis. To deliberate upon the issue in a consultative manner, following its established practice, the Authority undertook a comprehensive consultation process. The Authority issued a Consultation Paper No. 12/2006 dated 16th June 2006 on "Admissibility of Revenue share between Visiting Network and Terminating Network for Roaming Calls". All the stakeholders were requested to send their written comments on the issues raised in the consultation paper by 7th July 2006. The comments so received were put on TRAI's website and also deliberated upon with the Stakeholders in the Open House Discussion held at New Delhi on 17.07.2006.

3. In the Consultation Paper the main issue raised was that in case of roaming calls whether terminating network service provider should get a revenue share from the visiting network service provider or it should get only the termination charges as prescribed by the Regulator in the Regulation.

4. The majority of service providers did not favour the revenue sharing for the roaming calls between the visiting and terminating networks mainly on the ground that the termination charge is cost based and is determined on the principle of 'work done' even in case of roaming and that terminating network does not incur any

2

additional cost for handling the calls from the roaming subscribers. The Authority also recognises the principle of cost based termination charge, in the Regulation.

5. The Authority had prescribed ceiling tariffs for Regional / National roaming vide its TTO (18th amendment) which has mainly three components viz. roaming airtime charges of Rs. 3.00 per minute + surcharge of 15% on Airtime component + PSTN Charges as applicable. Subsequently after implementation of IUC Regulation, Authority vide its letter dated 14th May 2004 clarified that PSTN charges would mean the Interconnection Usage Charges (IUC) i.e. Carriage + Termination + Access Deficit Charge (ADC) for various distance slabs as provided in the IUC Regulation(Copy enclosed at **Annex- II**). From this also it is clear that same IUC would also be applicable for roaming calls as well and there would not be any additional component in IUC for roaming calls.

6. It is further mentioned that the termination charge of Rs. 0.30 per minute, specified by the Authority in the Regulation is cost based and is independent of the network from where the call is originating/terminating. Further, the termination charge is also independent of the tariff charged by the operators. In case the termination charge is allowed to be linked with the tariff, there is likelihood of this leading to distortion in the market and higher roaming tariff to the consumers. It may also be noted that the retail prices are a function of wholesale price and it is not vice versa.

7. The Authority does not agree that mutual negotiations can be overarching and compromise the termination charges laid down in the Regulation. Permitting mutual negotiations for revenue share in case of roaming calls is akin to permitting negotiations for higher termination charge for incoming international calls, which was not agreed to by Authority after detailed examination. The reasons for this position taken in the matter of termination charge for incoming international calls have been recorded in the Explanatory Memorandum of IUC Regulation dated 23-2-2006. Besides, it is also noted that permitting any additional amount to the terminating operator for roaming calls could increase arbitrage, which may encourage the grey market for national and international long distance calls.

8. In view of the Authority, allowing service providers to negotiate the revenue sharing, over and above the prescribed cost based termination charge may lead to abuse of market power by dominant operators. As termination is generally considered as a monopoly segment, in the absence of a regulator determined interconnection charges, operators with significant market powers have the potential distort the market through the mutual negotiation process.

9. The Authority is of the view that in case any additional amount over and above the presently specified termination charge, is permitted for roaming calls, the service providers will be required to segregate the calls made by the roaming subscribers, which will increase the cost to the service providers & in turn may be transferred to the consumers by way of higher tariffs. Further, any deviation from the cost-based IUC framework may lead to demand for a similar dispensation in respect of carriage charges by NLDOs as roaming calls also involve a carriage component. Therefore, the present system of uniform Interconnect Usage Charges for all calls (including roaming calls) being cost based, is just and would be in the interest of fair competition.

10. Authority has always given emphasis on elimination of arbitrage. In various IUC/ADC regimes, the ADC amount on incoming international calls has been gradually reduced due to various reasons including the removal of potential of arbitrage. Presently there is ADC @ Rs.1.60 per minute on incoming international calls which is planned to be depleted by 2008-09. Also, for national long distance calls there is no extra payment to any terminating operator, over and above the prescribed termination charges. If any revenue share in addition to termination charge is specified then this payment of revenue share could become a source of arbitrage and operators could have the tendency to bypass the payment of the revenue share by showing the calls from roaming subscribers as calls originated from non-roaming subscribers. Therefore allowing revenue share over and above the prescribed termination charge may provide an incentive for grey market which is not desirable.

11. In addition, the Authority is concerned about the high roaming tariffs offered by some service providers. The Authority may, in the near future consider issuing a consultation paper to review the present roaming tariff regime. The goal is to

achieve seamless national roaming without any extra burden on the consumers and prescribing any additional amount for terminating such calls may also defeat this objective.

12. In the Regulation, the Authority had considered all the aspects and did not specify a separate revenue share for roaming calls. Having considered the opinions of various stakeholders contained in their written submissions, the views expressed by them in the Open House Discussion and other relevant facts, the Authority remains of the view that there is no justification for a revenue sharing arrangement among operators in respect of roaming calls (National & International) and, therefore, no amendment in the Regulation is called for.

ANNEX-II

TELECOM REGULATORY AUTHORITY OF INDIA
A.2/14. SAFDARJUNG ENCLAVE, NEW DELHI.110029
E-mail: trai@del2.vsnl.net.in Fax: 91-11-26103294

No.310-7(28)/2004-Eco
Dated: 14th May 2004

To

All Mobile Service Operators / Unified Access Service Providers /
COAI / ABTO (As per list attached)

Subject: Outgoing and Incoming charges for Postpaid and Prepaid 'Domestic Inroamers in Circles and Metros

Sir,

The Authority has recently reviewed the roaming tariffs filed by various mobile operators with reference to the provisions of the Telecommunication Tariff (18th Amendment) Order, 1999 and The Telecommunication Interconnection Usage Charges Regulation (IUC), 2003. The 18th Amendment to TTO, inter-alia, prescribes ceiling tariffs for roaming viz; Airtime charge of Rs.3/- per minute + PSTN Charges as applicable + Surcharge @15% on Airtime component. The IUC Regulation, 2003 prescribes the Carnage, Termination and Access Deficit Charge per minute applicable for various calls.

2. The total roaming charges per minute shall not exceed the currently applicable ceiling of Rs. 3.45 (i.e. Rs.3/- + 15% surcharge) as provided in the 18th Amendment to TTO plus the IUC charges i.e. Carriage + Termination + ADC for various distance slabs as provided in the IUC Regulation. It is observed that the roaming tariff implemented by some operators for various distance slabs exceeds the above-prescribed limits. Any tariff which exceeds the above ceiling limits would be inconsistent with the provisions of TTO/ IUC Regulation.

3. In view of the above, all roaming tariffs that are not consistent with the prescribed ceilings as explained above shall stand Intervened. All service providers are hereby advised to immediately restructure their roaming tariffs accordingly. A compliance report along with the revised roaming tariffs may be furnished to the Authority latest by 20.05.2004.

Yours faithfully,
Sd/-
(Dr. Harsha Vardhana Singh)
Secretary-cum-Principal Advisor

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<u>Annexure-3</u>

Format for Submission of Cost & Revenue data in respect of ROAMING SERVICE

S.No.	Particulars	FY ending March 2003	FY ending March 2004
A	**Roaming Subscribers**		
A.1	No. of Subscribers with National Roaming Facility		
A.2	No. of Subscribers with National Roaming Facility as percentage of Total Subscriber Base		
A.3	No of In-roamers		
B	**Number of Minutes Used by In-roamers**		
	National In-roamers		
B.1	Incoming minutes		
B.2	Outgoing minutes		
C	**<u>Revenue (Rs.)</u>**		
C.1	**Revenue from Out-Roamers**		
C.1.1	Roaming Subscription Fee		
C.1.2	Monthly National Roaming Rental		
C.1.3	Security Deposit (National)		
C.1.4	Airtime Revenue		
C.1.5	Termination Charge		
C.1.6	Surcharge on call charges (please specify percentage)		
C.1.7	Total Surcharge revenue on call charges		
C.1.8	Any other revenue (please specify)		
C.2	**Revenue from In-roamers**		
C.2.1	Airtime revenue		
C.2.2	Termination Revenue		
C.2.3	Any other revenue (please specify)		
C.3	Please specify interconnection arrangement (for e.g. Revenue share percentage or bill and keep etc)		
D	**<u>COST (Rs.)</u> AS ON .... (Pl specify Year)**		
D.1	**FIXED COST FOR THE PURPOSE OF DETERMINING RENTAL (Rs.)**		
D.1.1	Investment in billing system to support Roaming Module		
D.1.2	Investment in Connectivity resources like Routers, Modems etc. (Give details)		
D.1.3	Cost of an additional application in the MSC, if any, on account of Roaming service		
D.1.4	Other capital costs attributable to Roaming service if any (Give details)		
D.1.5	Cost related to Authentication, if any		
D.2	**VARIABLE COST FOR THE PURPOSE OF DETERMINING AIRTIME CHARGES (Rs. Per Annum)**		
D.2.1	Fixed recurring OPEX		
D.2.1.1	-- Leased line for Tap files transfer on daily basis		
D.2.1.2	-- Clearing house for TAP files validation cost		
D2.1.3	-- Financial clearing & Fraud management cost		
D.2.1.4	-- Other costs, if any, please specify		
E	**Applicable Licence Fee (%age)**		
F	**Applicable Spectrum Charges (%age)**		

Annexure-4

Incoming call while Roaming – Local (prepaid & post paid)

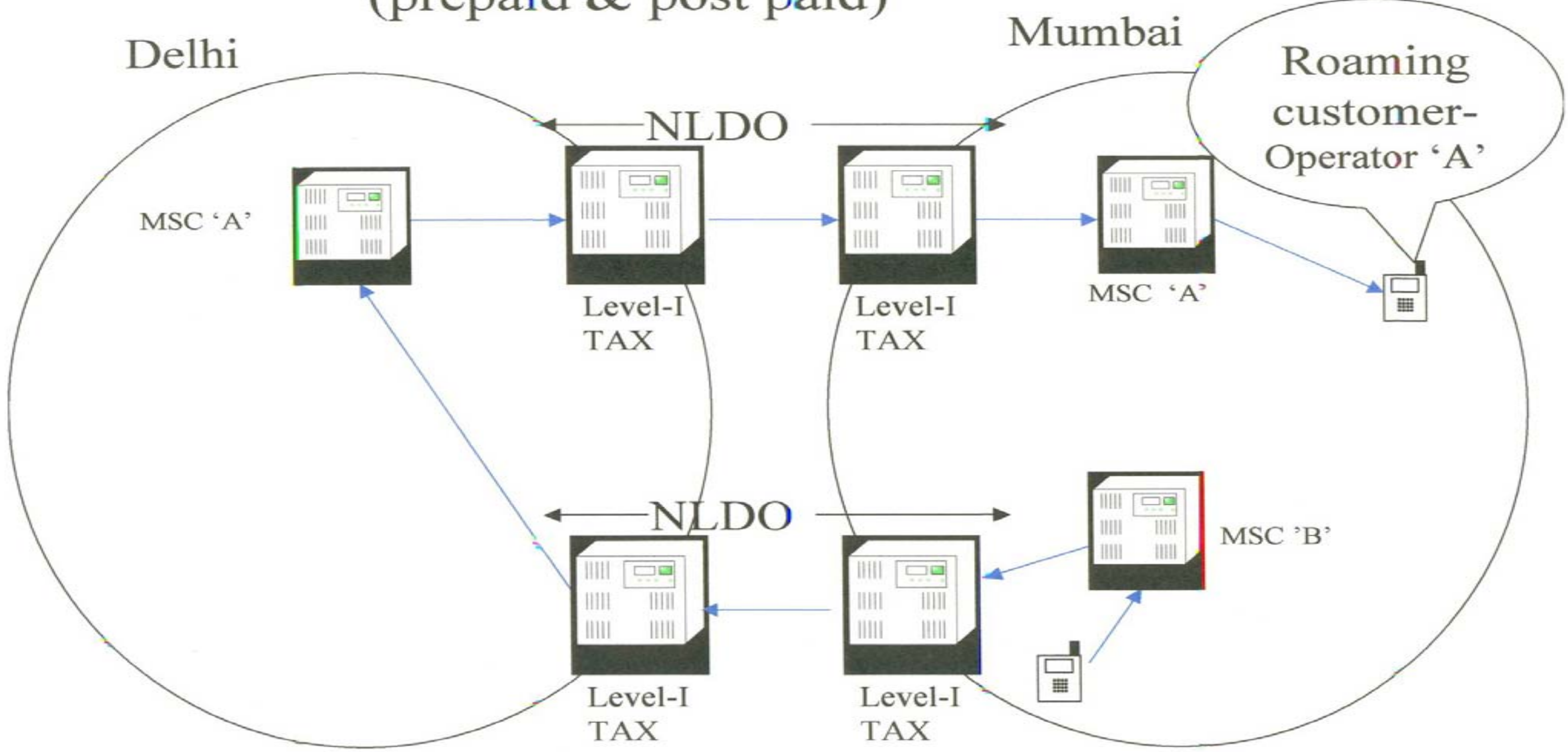

Diagram 1

Annexure-5

Incoming call while Roaming – Inter-circle (prepaid and post paid)

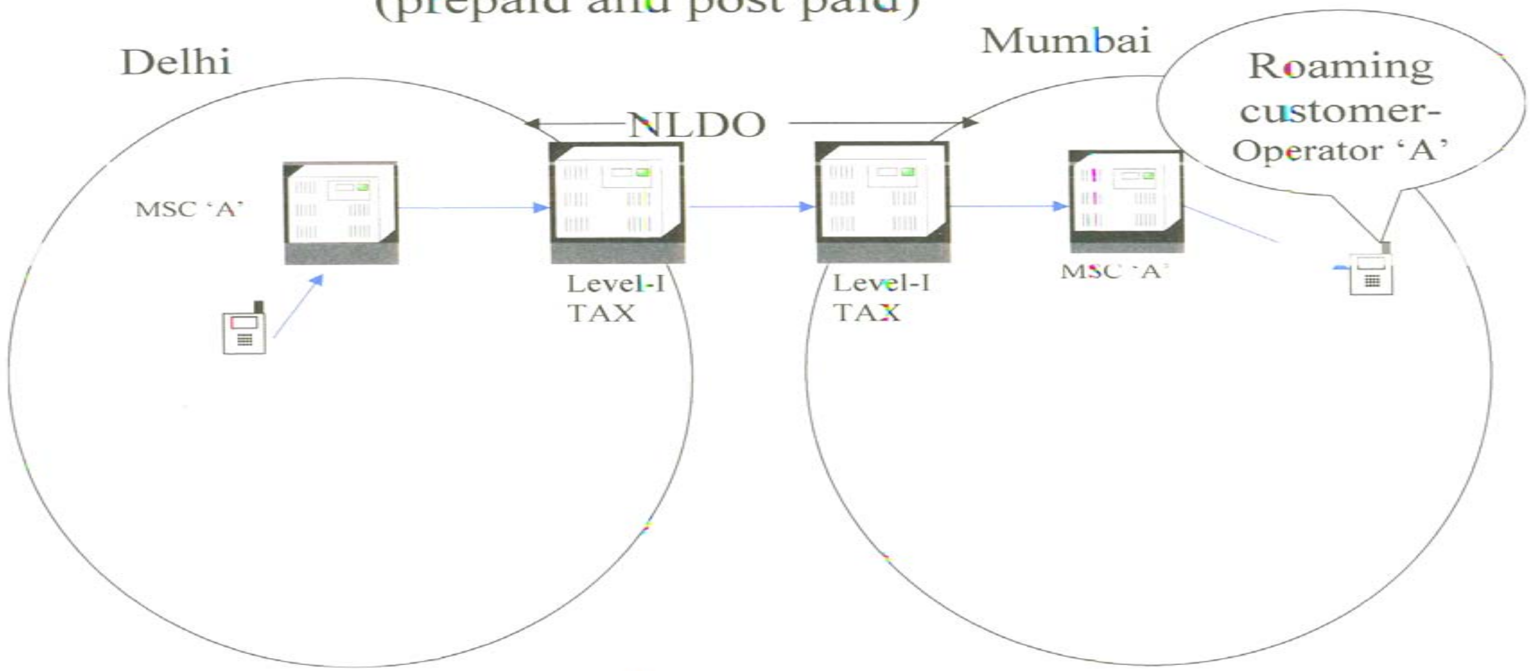

Diagram 2

Annexure-6

Out going call while Roaming – Local (prepaid)

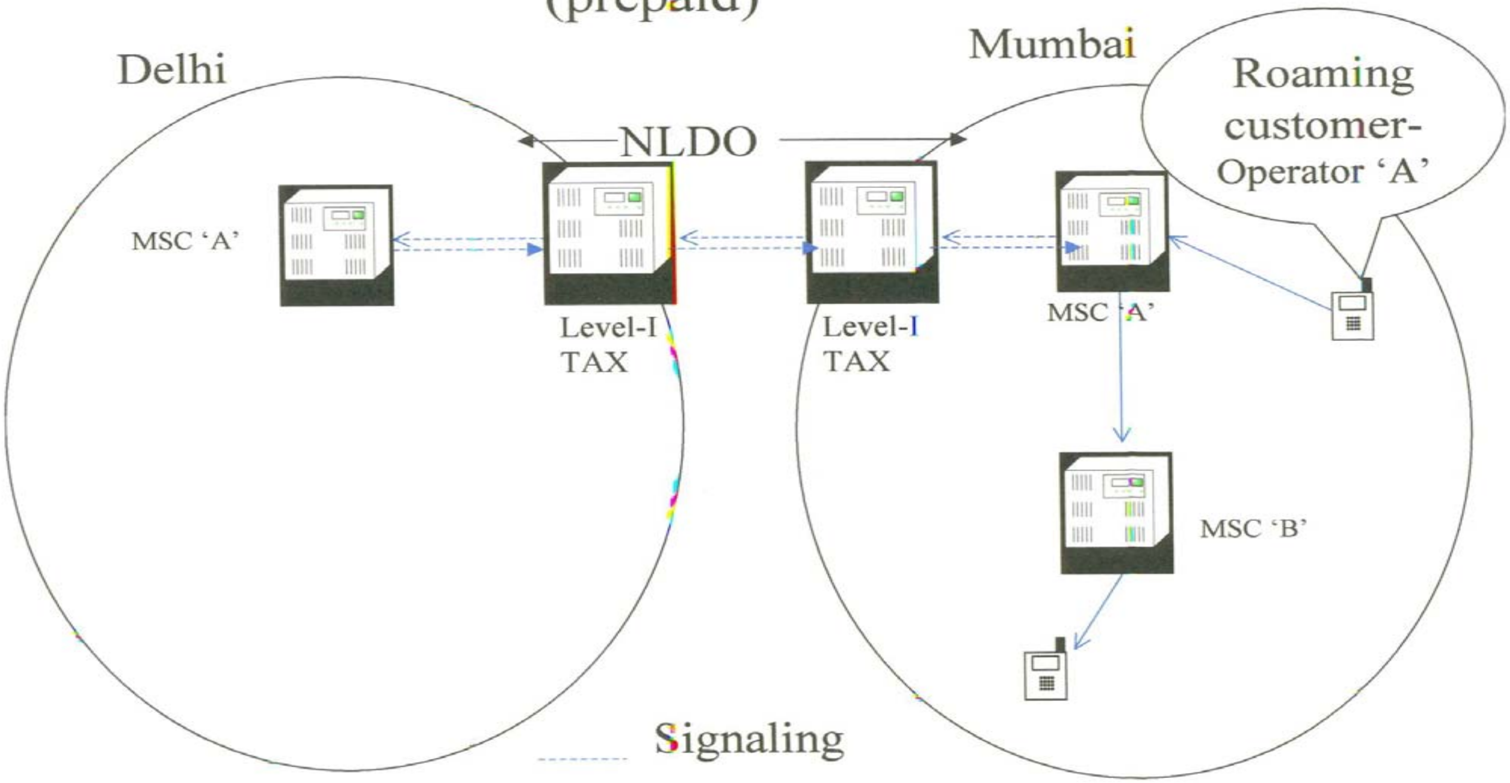

Diagram 3

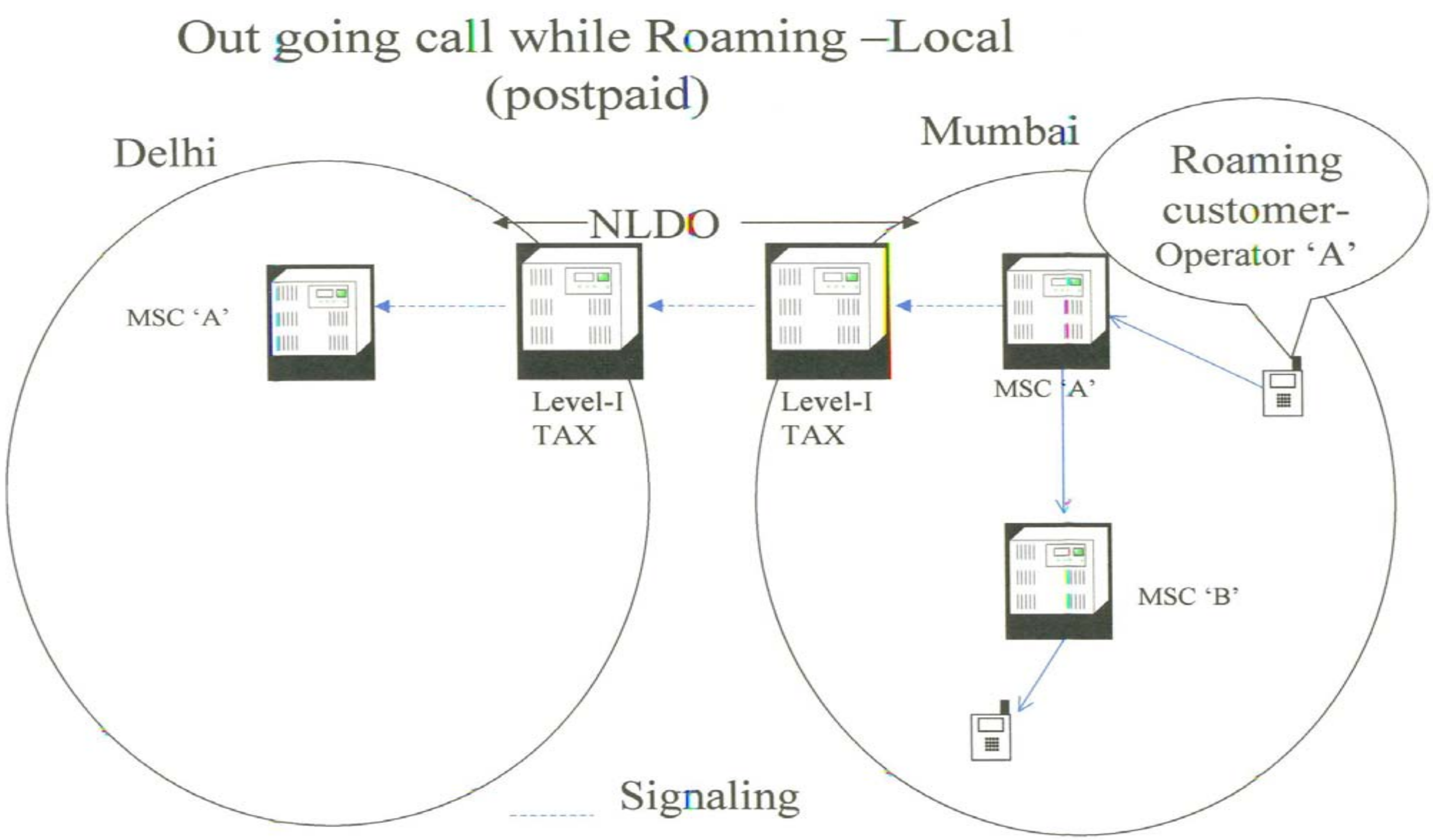
Out going call while Roaming –Local
(postpaid)
Delhi
Mumbai
Roaming
customer-
Operator 'A'
NLDO
MSC 'A'
Level-I
TAX
Level-I
TAX
MSC 'A'
MSC 'B'
Signaling

Diagram 4

Annexure-7

Out going call while Roaming – Inter Circle (prepaid)

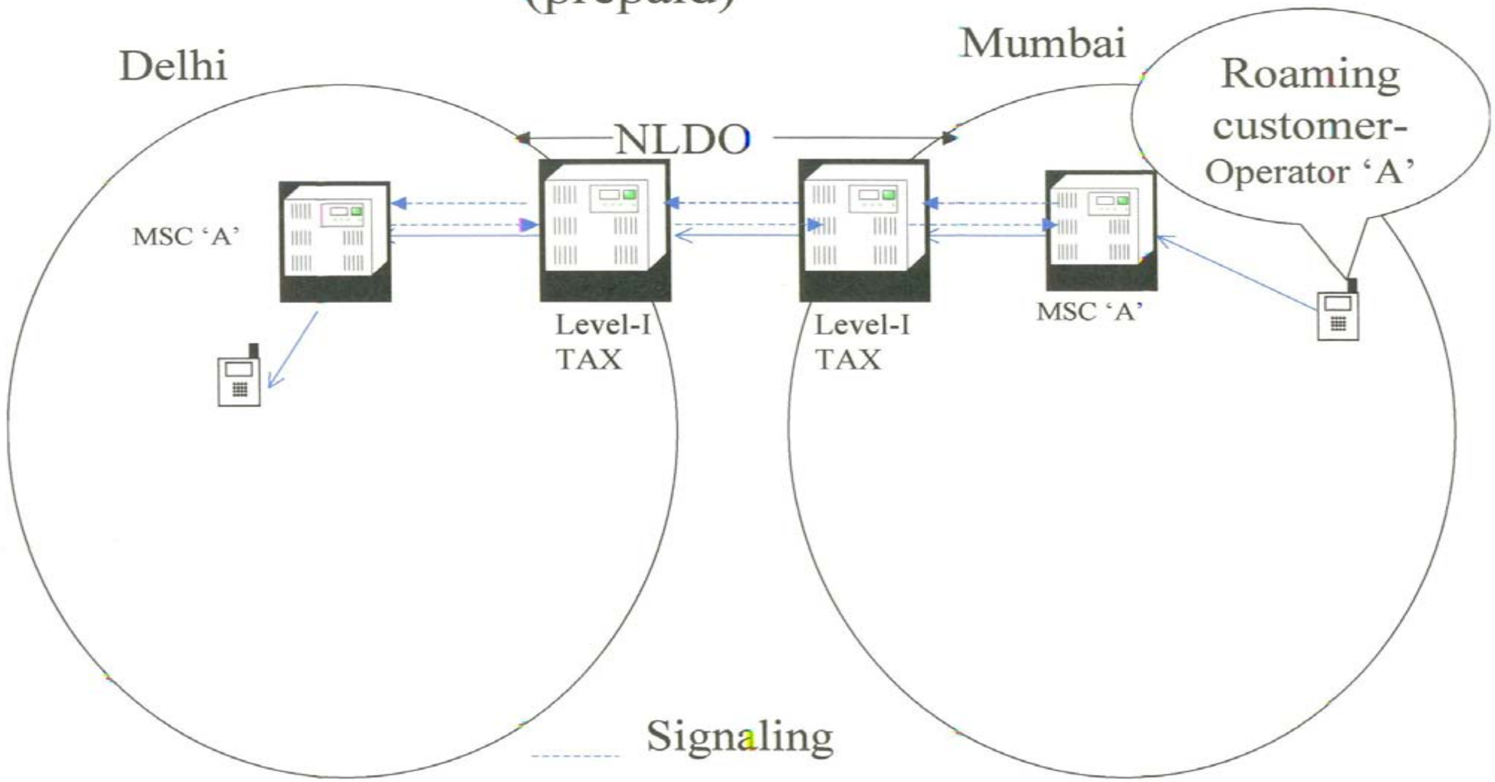

Diagram 5

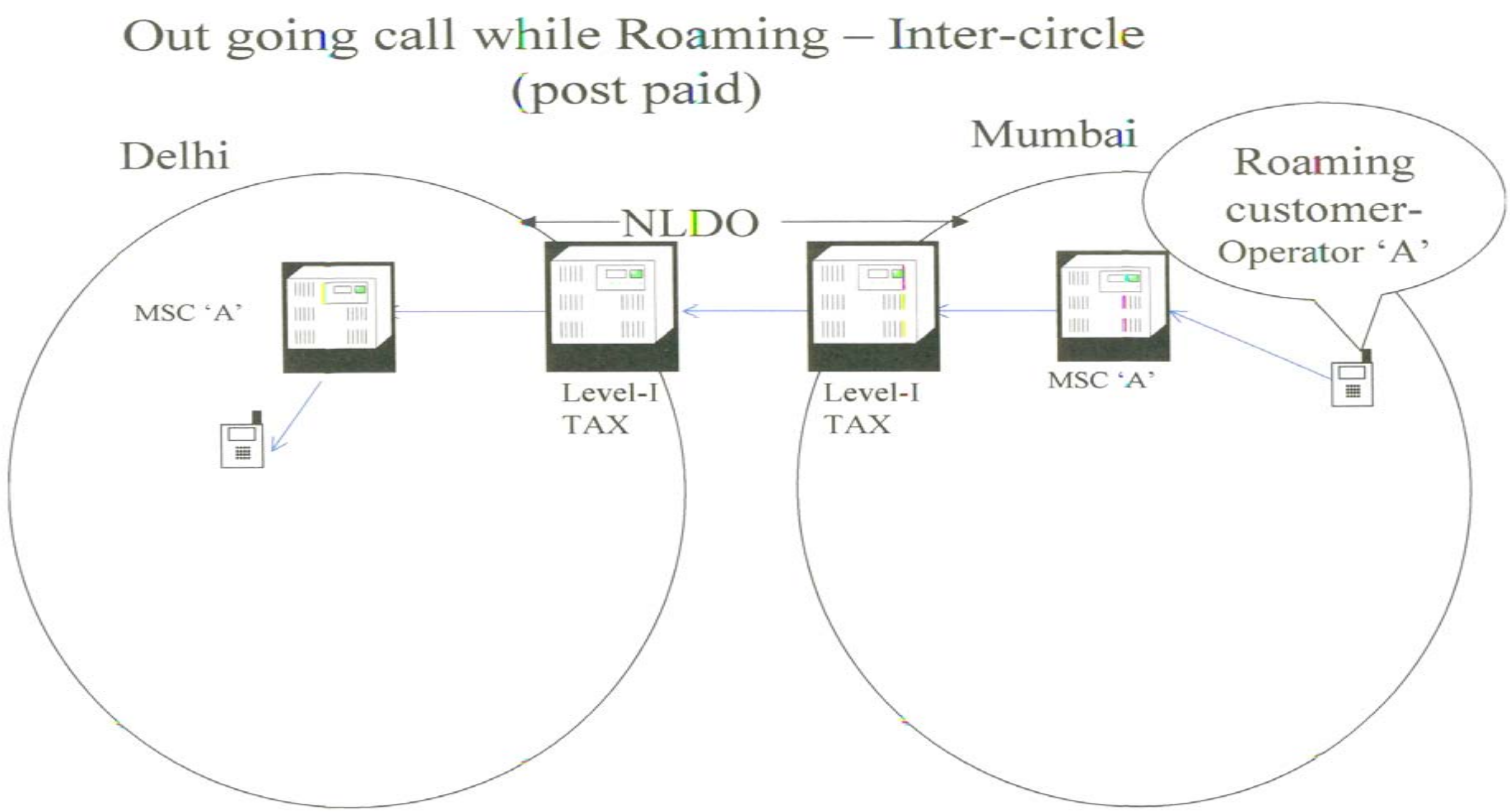
Out going call while Roaming – Inter-circle
(post paid)
Delhi
Mumbai
Roaming
customer-
Operator 'A'
NLDO
MSC 'A'
Level-I
TAX
Level-I
TAX
MSC 'A'

Diagram 6