Telecom Regulatory Authority of India

Consultation Paper

on

IUC issues

Consultation Paper No. 2003/1 dated 15th May 2003

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PREFACE

1. On 24th January 2003, the Authority notified a new Telecom Tariff Order (TTO) and an Interconnect Usage Charge (IUC) Regulation. The IUC Regulation encompasses also a regime to address the Access Deficit Charge (ADC) that would compensate for the access deficit that arises for the basic services since the monthly rental and local call charges do not fully cover the relevant costs.

2. The new tariff and IUC regime have been implemented from 1st May, 2003. The Authority has provided greater flexibility with respect to the tariff regime, in the form of alternative tariff packages. This has made possible the price changes being witnessed through the ongoing competition in the market which have increased the options available and the reduction in several tariffs. The ADC regime does not envisage alternative means of addressing the issue other than providing alternatives of Uniform and Non-Uniform ADC regimes, and any points raised with respect to this regime have to be seen in that context.

3. The Authority has received several communications with respect to both the tariff regime and the IUC regime. The various concerns, especially with respect to the IUC regime, have also been emphasized to the Authority in its discussions with several stakeholders. These pertain to aspects such as sustainability of the IUC regime over time, consistency among the different Schedules of the IUC Regulation specifying the regime, and the possibility of considering improvements that would encourage a competitive market and discourage growth of grey area traffic.

4. This consultation paper has brought out for public consultation a number of issues based on inputs received from various stakeholders. These issues have been grouped in four main categories i.e.

(i) Interconnect Usage Charges (IUC)

(ii) The Access Deficit Charges (ADC)

(iii) Tariffs

(iv) Calling Party Pay (CPP)

5. The Authority invites written responses from all stakeholders latest by closing hours of 06/06/2003. It would be appreciated if the response is accompanied with an electronic version of the text through Email.

6. For further clarifications please contact, Shri R. K. Bhatnagar, Advisor (FN) - Tel. No. 26166930, Email address trai06@bol.net.in or Dr. (Mrs.) Roopa R. Joshi, Advisor (Economics) - Tel. No. 26160752, Email address: trai01@bol.net.in. The Fax No. of TRAI is 26103294.

1. INTRODUCTION

1. The objective of this Consultation Paper is to put in place a framework for discussion to consider suggestions for improving and streamlining the interconnection regime. Section 2 of this paper provides a brief background to the Authority's IUC Regulation dated 24.1.2003, Telecommunication Tariff Order dated 24th January 2003, and the 'Calling Party Pays' regime for cellular mobile introduced through a consultation process that began with the TRAI's Consultation Paper on the subject, dated 23rd May, 2001 (Consultation Paper No. 2001/1).

2. Section 3 provides a summary of various issues and comments that were highlighted through the feedback received by the Authority from various stakeholders through written communications, representations and other inputs received during the presentations made to the Authority. These points are issues submitted to the Authority for consideration and should not be seen as representing the view point of the Authority. Section 4 raises certain questions that cover the various issues on Interconnection Charge Regime, related Tariff and CPP issues for discussions/ consultation.

Section 2

Background to the IUC Regulation

1. In a Multi-Operator environment, it is important to specify an IUC regime which gives greater certainty to the Inter-operator settlements and facilitates interconnection agreements. Thus, there was a need for specifying cost based Interconnection Usage Charges (IUC) for origination, transit and termination in a Multi-Operator environment. Origination and Termination usage charges include Access Deficit Charge (ADC) payable to the Basic Service Operators which they must get in order to keep the rental as well as local calls affordable.

2. National and International Long Distance markets were opened up for competition and these policy measures resulted in a significant reduction in National and International long distance tariffs due to competitive pressures. Table 1 shows the comparison of STD charges at the end of tariff rebalancing period as per TTO'99 and prevailing market rates. This shows that there has been a drastic reduction in the margin available from long distance calls to fund the Access Deficit incurred by the Basic Service Operators due to rentals being significantly lower than actual costs.

Interconnection Usage Charges, ADC and related Tariffs

3. The exercise to determine IUCs involved an assessment of the various cost items attributable to the different network elements used in setting up of a call in a Multi-Operator environment. Every effort was made to

accurately assess the network element costs based on the inputs provided by various operators including the incumbent.

4. The IUC determination exercise started with detailed discussions with various stakeholders based on TRAI consultation paper 2001/5 dated 14th December 2001. The paper had proposed a number of methodologies for calculating Origination, Transit and Termination charges in a Multi-Operator environment based on International best practices. The paper had also identified the Network elements involved in the carriage of a long distance call from its origin to destination in a Multi-Operator environment.

5. The Interconnection Usage Charges for Origination, Transit and Termination are also the underlying costs of carrying a call from the calling to the called party and are thus closely linked with determination of retail tariffs. The tariff re-balancing effected under the Telecommunication Tariff Order (TTO) 1999 by the Authority was followed by intense competitive price declines in the long distance sector, which brought down the prices substantially. With the initiation of the IUC exercise, the Authority was also in a position to carry out its tariff review which has become essential in the new Multi-Operator Multi-Service telecom scenario which has emerged after opening up of all the segments of telecom service market such as Cellular, Basic and Long Distance. To discuss both Basic Service tariff and IUC, which are closely linked, the Authority released its Consultation Paper No. 2002/3 dated 23rd September 2002. This paper dealt with tariffs for Basic Services as well as the IUC regime including Access Deficit Charge.

6. Framework of the IUC regime was already established by TRAI through its Regulation on Reference Interconnect Offer (RIO). As detailed therein,

IUC has to be determined based on minutes of usage for various Unbundled Network Elements and the cost of these elements. As brought out in the Reference Interconnect Offer (RIO), the IUC for Origination, Transit and Termination are based on the principles of element based charging i.e. one operator charging the other for the resources consumed for carriage of its calls in terms of minutes of use (MOU).

7. The Access Deficit Charge (ADC) as notified by TRAI on 24th January 2003, was derived by comparing the cost based rental and local call charge with an affordable level for rental/ local call charges, special concessionary local call charges in the rural areas, provision of free calls, and any other below cost tariffs to make the Basic telecom services affordable to the common man to promote both Universal Service and Universal access as per NTP'99. These tariffs were specified in the Authority's Tariff Order dated 24th January 2003. In order to reach the final estimates of IUC, the IUC Regulation had taken into account the requirements of Access Deficit Charge arising out of the Tariff Order. The distribution of ADC on different tariffs streams, was notified by the Authority in its IUC Regulation dated 24.1.2003

8. The ADC compensates for the below cost rentals and the free calls provided for Basic Service such as POTS. For other services such as Cellular Mobile and Wireless in Local Loop with limited mobility (WLL-M), the Access Deficit Charge was not applicable as the rentals and call charges in these segments cover costs as these tariffs have been left to market forces and have not been kept below cost by regulation.

9. The feedback from most operators at that stage had indicated that IUC rates should be prescribed and should be based on element based

methods while providing for its linkage with long distance tariff. It was also suggested that the regulatory obstacles to interconnection both in terms of the rationalization of its levels and technical dimensions needed to be seen in respect to the competitive conditions/ bottleneck facilities that exist in the sector.

10. Based on BSNL data and various inputs received from stakeholders, the Authority specified its IUC regulation with various schedules specifying origination, carriage and termination for intra circle and inter circle as well as inter network calls to be implemented by operators w.e.f. 1.4.2003. Service providers were to file IUC compliant tariff plans to the Authority in advance. However, given the late receipt of such plans and the fact that the plans required to be widely publicized and the issues related to settlement of inter operator interconnect charging was also to be resolved, the Authority deferred the date of implementation to 1.5.2003. These issues were settled with the concurrence of the operators through a number of meetings amongst the operators and also their meetings with the Authority and IUC regime has been implemented from 1.5.2003.

11. The total amount of ADC is a large amount, which can be seen from Table 2 which provides an illustrative estimate of the annual Access Deficit based on a subscriber base of 4 Crores Fixed Lines. The large ADC, combined with the fact that call charges for local calls and the relatively short distance calls have to be kept reasonable low for affordability purposes, implies a substantial per minute ADC for different types of calls. Table 3 shows the ADC component, which has been loaded on various type of Inter-Network Calls based on differential (non-uniform) ADC. Table 4 provides the ADC values for the International Long distance service segment. IUC Charges with Uniform and non-uniform ADC Inter-Circle

and Intra-Circle for various types of calls are given in Tables 5 and 6 respectively.

Calling Party Pays (CPP) for cellular mobile

12. Worldwide, the cellular mobile tariff regime in various countries can be divided into the following three categories.

    i) Countries having CPP regime right from the launch of Cellular Mobile Services e.g. all European countries.
    ii) Countries, which migrated from Mobile Party Pays (MPP) to Calling Party Paging (CPP) e.g. a number of Latin American countries.
    iii) Countries, which are continuing in Mobile Party Pays (MPP) regime e.g. USA, China, Singapore, and Hong Kong.

13. Over time, several countries have adopted CPP in place of a Mobile Party Pays (MPP) regime. Some studies have shown that the CPP regimes are likely to increase the growth of cellular mobile services and hence of the telecom sector itself.

14. The TRAI began its Consultation process on CPP with a Consultation Paper in 2001, and discussed the matter with various stakeholders and experts in the area. With the introduction of the IUC regime for various access services, TRAI was of the opinion that it should also introduce the CPP regime for cellular mobile, both for consistency of the regime as a whole as well as the likely contribution that such a change would make to the growth of the telecom sector.

Section 3

Issues raised in the feedback received by the Authority on the IUC Regime

1. The Authority has received a number of written communications from service providers and others on the subject of IUC charges. The Authority also initiated a process of discussions with all the Service Providers to obtain their inputs covering key important issues. During the presentations, a number of references and suggestions related to the Interconnection Usage Charge regime were made. Annex 1 gives the details of these representations.

2. The various issues, viewpoints, comments received have been summarized in this Section. The Authority feels that the issues raised should go through the consultation process.

3. The issues, viewpoints and comments come mainly under four categories. These are :

    - Interconnection Usage Charges
    - Access Deficit Charges
    - Tariffs
    - Calling Party Pay Regime

Section A: Interconnection Usage Charges: Clarifications, Anomalies, and Suggestions

4. Interconnection usage charge are specified as payment for the work done for origination, carriage or termination of a call. In this section, we address the

anomalies or concerns pointed out with respect to the interconnection usage charges :

(a) Greater clarity should be provided in the Schedules of the IUC Regulation, especially the linkages and consistency between the different Schedules and the applicable IUC charges for all kinds of calls. Also, the termination charge for long distance calls from cellular mobile/WLL(M) to Fixed Line should not be less than the termination charge for calls within a local area.

(b). The IUC Regulation specifies identical interconnection charges at both originating and terminating ends of the networks. It has not taken into account the extra costs that are incurred on account of higher Operational Expense (Selling, acquisition, billing and bad debts) at the originating end.

(c) The IUC for termination should be made identical for all Intra-SDCA handovers (e.g. 25 Paisa per minute). This will facilitate easier implementation of the regime. Another suggestion was to have IUC charges of 30 (or 40) Paisa per minute for Metro (or Circle) cellular mobile/WLL (M) networks should be made uniform at say 30 Paisa for Metro as well as Circle Networks. Moreover, the higher termination charges for WLL (M) at 50 Paisa per minute for Inter-Circle calls should also be kept at the above uniform amount.

(d) The IUC regime should take account of the possibility of far-end handover by the fixed line operator to cellular mobile, and provide for relevant IUC in such cases.

(e) The IUC Regulation gives the charges for direct connectivity between Access Providers and between them and NLDOs/ ILDOs. Direct connectivity, if one of the party demands it, needs to be made mandatory through regulations.

Moreover, the IUC regime should specify charges for transit in Intra-SDCA network for overflow and techno-economic reasons. Further, IUC should also be specified for other services, such as SMS.

(f) Carriage Charges of Rs. 0.20 to Rs. 1.10 per minute for Long Distance Traffic are on the lower side and would not cover the costs of a stand-alone or new entrant NLDO, in view of the lower traffic that would be available to such operators.

(g) No termination charges should be provided for intra-circle calls to Cellular Networks. These amounts could be compensated through higher termination charges for Inter-Circle traffic.

Section B : Access Deficit Charges:
Sustainability, Level Playing Field, Alternative Options

5. Several concerns have been raised with respect to the access deficit charge (ADC), which has been specified only for calls involving fixed lines. Thus, the loading of ADC is such that it makes it possible for services other than fixed line to give relatively lower tariffs. These and the other issues raised in this context are summarized below :

(a) The Authority has provided two alternatives for ADC, namely Uniform and Non-Uniform ADC regime. With the choice for ADC (uniform/ differential) being given to individual operators, there will be a chaotic situation when multiple operators in circles start adopting different practice.

(b) The ADC regime should ensure that there is no by-pass of traffic through arbitrage and abnormal routes i.e. at the cost of licensed service providers.

(c) Since the ADC is loaded only on calls involving fixed lines, the tariffs for calls from/to cellular mobile and WLL (M) would be cheaper, with this advantage being most strongly available to calls from cellular mobile to cellular mobile. Further, cellular mobile Service Providers would be able to avoid long distance carriage charge for intra-circle cell to cell calls because they would not need to give the carriage charge which has been received for Intra-Circle calls from fixed line. In the case of calls from fixed line, these carriage charges range from Rs. 0.20 to Rs. 1.10 per minute. Amendments to the ADC regime should be considered to address these situations.

(d) The estimated amount of ADC is large, as shown by Table 2, and if all of it has to be recovered from long distance minutes involving fixed line, then the ADC per minute will become large since the number of such minutes available are likely to be a small share of the total minutes used. Moreover, the ability of cellular mobile and WLL (M) service providers to charge lower tariffs for long distance will imply a churn away from fixed line, which in turn will mean a further increase in ADC per minute if it is collected only from fixed line long distance minutes. Therefore, the Authority should consider a possibility of recovering ADC from a base larger than only the fixed line long distance minutes. Otherwise, there will be an adverse effect on development activities and tele-density objectives for Rural and remote areas

A number of options that have been suggested to address the above-mentioned situation include the following:

- ADC should be imposed on all long distance calls including Cell to Cell, WLL(M) to WLL(M), Cell to WLL(M), WLL(M) to Cell calls of Intra-Circle and Inter-Circle nature. This could be enforced through periodic settlement between operators under the supervision of the

Authority or through the creation of an Access Deficit Contribution Fund.

- The calculation of ADC should also be reviewed to account for the likely developments in the telecom sector, and for this purpose, the Authority should conduct its analysis based on Long Run Incremental Cost, taking account of new cost effective technology options like fiber in the loop, wireless in the loop, switches with high traffic handling capacity, two stage remote switching options, high capacity transmission systems, new equipment deployment options, possible changes in efficient utilization of Numbering resources and traffic handover principles. In this regard, it was also pointed out that most countries have moved to Forward Looking Long Run Incremental Costs (in place of historic costs) for determination of ADC and interconnect charges.

(e) Greater flexibility should be provided in the IUC/ ADC regime with more flexible floors and ceilings

(f) It is necessary to clarify the rationale for specifying a carriage charge of Rs. 0.20 per minute payable for traffic handover to Basic Service Providers within the same Circle while in case of Metros, this component being not payable at all.

(g) The IUC review exercise should ensure that no undue migration of traffic gets encouraged from one network to another network and adequate margins are available for ensuring viability of services with adequate margins. In this regard, it was also pointed out that the ADC for ILD calls is much higher than the maximum ADC for NLD calls. Also, the ADC for ILD calls should be different for different distances that the calls have to travel in the national segment. Higher

ADC especially for Incoming International traffic, as well as differential ADC for calls to cellular mobile and WLL (M), would promote gray market.

(h) It should be ensured that the ADC from long distance calls originating from cellular mobile roamers, is received by the fixed line operator

Section C : Tariff Issues

6. A number of tariff issues were also raised in the context of the IUC regime. These include:

(a) Local call pulse rate for calls from Fixed Line to WLL (M) and Cellular call should be identical since the IUC for such calls is identical.

(b) There is no justification for providing Port Charges subsequent to IUC implementation.

(c) While the tariffs may be on per minute or any other appropriate pulse, the IUC payment should be based on a per second basis.

(d) The number of Tariff Packages need to be restricted to only 4 or 5, for better understanding of the customers and simplicity in implementation.

(e) It is desirable to specify the standard tariffs for cellular mobile and WLL (M) and remove them from the category of tariff forbearance.

(f) The Authority must prescribe the manner in which the customer should be informed about tariffs so that the actual, effective call charge is correctly known to the customer.

Section D : Calling Party Pay (CPP) for Cellular Mobile

7. One of the views submitted to the Authority on CPP is that the introduction of a mobile termination charge increases the tariffs for a basic service subscriber, takes away revenue that is due to the Basic Service Operator, and provides the cellular mobile operator with amounts that should not be given in terms of their overall cost situation in comparison to the Fixed Line.

Section 4

Issues and Questions for Consultation

1. Interconnection Usage Charge

i) What are the anomalies or interpretive difficulties in the various schedules of the IUC regulation and TTO of January 24, 2003.

ii) Transit of calls through a third party network/ switch even for local calls may be required at least as a back up arrangement. Should a transit charge be specified?

iii) Is there an IUC anomaly in the case of long distance calls involving GSM roamers? If so, how is it to be corrected?

iv) Should Cell to Cell and WLL(M) to WLL(M) termination charges be defined for all Intra and Inter-Circle calls?

v) Should the termination charges be made identical for all intra-circle calls across all services?

vi) Should there be any differences in IUC for Origination and termination covering National Long Distance and International Long Distance segments? Is there any justification for different IUC values based on distance?

vii) Is there a need to review the national numbering and long distance charging plans?

viii) Should the carriage charge for long distance calls be revised?

2. Access Deficit

Several comments have been received with regard to the quantum of Access Deficit, the method used for calculating the Access Deficit, the method of compensation proposed for Access Deficit, anomalies with regard to the specific Access Deficit under different situations, etc. Keeping in mind the issues raised in Section 3, following questions have been formulated for consultation:

i) The requirement of Access Deficit has been worked out on the basis of Cost as contained in the published Annual Reports of BSNL and MTNL, being the companies having the largest share of fixed line customers at the moment. In the light of rapidly evolving technology alternatives should the Access Deficit be continued to be calculated based on the concept of replacement and re-creation of the network or on the basis of re-creation of the functionality of the network? This would require a look at various alternative costing methods such as the Current Cost Model, the Historic Cost Model, the Long Run Incremental Cost (LRIC) Model or Forward looking LRIC (FL LRIC). What are your suggestions in this regard?

ii) Which target networks should be provided funds to recover Access Deficit? Should these be identified on average basis covering all customer lines or a distinction should be made between the Access Deficit for Urban and Rural connections?

iii) Should the source of the contribution to the Access Deficit be from calls, which have fixed network either at one end or both ends or the contribution should come from all services? The key issue should be to ensure that no competitive advantage becomes available to any specific services as a result of regulatory intervention.

iv) Whether some or all providers of fixed line services be recipients of Access Deficit Funds ?

v) Should the Access Deficit fund collection be minute based or revenue share based? In case per minute basis is adopted for computation of Access Deficit charge, should this amount be uniform for all these services by working out weighted average across individual services based allocation?

vi) Should the mechanism of transfer of funds be direct operator to operator transfer or through a third party independent administrator?

vii) Should uniform or non-uniform ADC charge arrangement continue or only one be standardized? In that case, which one?

3. Tariffs

i) Should the regulator monitor predatory pricing or should the tariffs be left to market forces after ensuring no regulatory advantage to any one type of service over others?

ii) What should be the principles to ensure that Tariff proposals are consistent with applicable Interconnection Charges.

iii) Whether the tariff for Cellular and WLL(M) which presently are under forbearance, need a revision.

4. CPP Issues

i) Any comments to make implementation of CPP more effective.

ANNEX I

WRITTEN COMMENTS on IUC Issues

Section 1: Comments from incumbent Service Provider

a) ADC has not been made applicable for Cell to PSTN and PSTN to Cell intra-circle calls which are basically long distance calls. If a fixed line customer of a BSO calls from Udaipur to a fixed line customer in Ganganagar of other BSO, the originating BSO pays to the terminating BSO at Ganganagar an IUC of Rs. 1.75 per minute whereas, if a cellular subscriber calls from Udaipur to the same fixed subscriber in Ganganagar, the cellular operator pays an IUC of Rs. 0.80 per minute only to the terminating BSO. The distance between calling and called party and the work done by the terminating BSO is same in both the cases. To remove this anomaly between the two type of calls, it is suggested that ADC applicable for 200-500 kms distance slab for fixed to fixed call should also apply for a cell to fixed call.

b) A mobile subscriber roaming in another circle pays a PSTN termination charge (Rs. 0.80) which is much less compared to a maximum termination charge of Rs. 2.50 if he had made the call from his own circle. This huge difference is being misused by the NLD operators to terminate cell to fixed inter-circle long distance calls through the POIs with other cellular networks in the terminating circle depriving the BSO of genuine termination charge of Rs. 2.50. Even Otherwise, the roamers subscriber belongs to a different service area and cannot claim the same benefit as applicable to the subscribers of the network he is roaming in. In order to prevent such misuse and charge the in roamer subscriber appropriately, it is suggested that the cellular operator shall pay an IUC to the terminating BSO applicable for highest slab of the inter-circle cell to fixed long distance calls.

c) Non-uniform termination charge due to its dependence on distance slab for fixed/ cellular networks results in the requirement of analysing CLI of the originating subscriber at the terminating end for determining the applicable termination charge. Wherever CDR based interconnect billing system is not there, the segregation of calls requires different trunk groups to be created at the terminating end which results in inefficient utilisation of the interconnect resources.

d) IUC Regulation permits forbearance for termination charges payable in case of Cellular to Cellular or WLL (M) to WLL (M) calls whereas it prescribes the termination charges in case of call from fixed to Cellular/ WLL (M) and also from Cellular to WLL (M) and vice versa. This results in cheaper Cellular-to-Cellular or WLL (M) to WLL (M) long distance calls and is thus causing migration of inter-circle long distance traffic of fixed to fixed networks to cell and WLL (M) networks.

Therefore, the purpose of prescribing ADC for compensating the BSOs to provide affordable service gets defeated.

e) The tariff and IUC are not matching for implementation in respect of inter circle calls terminating in WLL (M) networks. For inter circle calls terminating in WLL (M) network within a distance slab of 50 km the IUC payable by originating access provider to NLDO is Rs. 0.20 + Rs. 0.50 = Rs. 0.70 per minute. The origination charge is Rs. 0.15 thus making minimum cost of call as Rs. 0.85 per minute. As per TTO 2003 the pulse rate for local call including inter circle call within 50 km is 120s.

Thus tariff per minute charged from customers by originating access provider is only Rs. 0.50 (taking average per MCU rate as Rs. 1/-) while the pay out as IUC is Rs. 0.70 per minute.

Similarly, for the local calls within the same SDCAs the termination charge payable by fixed operator to WLL (M) operator is Rs. 0.40 per minute against its revenue of Rs. 0.50 per minute as per the prescribed tariff. Thus, the share of the originating operator is just Rs. 0.10 per minute i.e. about 20% of the call revenue.

To remove the above anomalies, it is suggested that for local calls the WLL (M) operator should get the same termination charge as applicable for fixed to fixed calls.

f) Termination charges for cellular to PSTN inter circle calls terminating within 50 km is much lower than the termination charge payable for intra circle calls. For intra-circle cell to PSTN calls terminating within the same LDCA, the termination charge payable to the fixed operator is Rs. 0.60 per minute whereas for inter-circle call terminating within 50 km the termination charge prescribed is Rs. 0.15. There is no justification for such a low charge for cell to fixed call. This should be brought at the level of Rs. 0.60.

g) In addition to above, because of the implementation of the CPP regime a call from fixed telephone to cell phone is required to be charged at a higher rate. This will create inconvenience for the customers.

h) It is further submitted that the private basic operators are normally providing telephones in the urban areas. Their average rental from fixed line telephones is of the order of Rs. 250/- per month. Whereas, the average rental of BSNL is Rs. 155/- per month because of the fact that about 30% of the BSNL's telephones are provided in the rural areas which contribute monthly rental of the order of about Rs. 50/- per month only. TRAI has calculated the cost based rental for fixed line services as Rs. 424/- per month though the justifiable cost based rental as per the cost data submitted by BSNL is much higher. Taking the figure of Rs. 424/- per month as cost based rent for fixed lines, the Access Deficit of the private BSO is only Rs. 174/- per month per DEL whereas, the Access Deficit of BSNL is of the order of about Rs. 269/- per month per DEL. In addition, the private BSOs are generally serving high callers. In conclusion, the Access Deficit per month per line in case of private BSOs is much lower than BSNL, the traffic generated by the customers of private BSOs is much higher than those of BSNL. Therefore, the Access Deficit Charge payable to the private BSOs on per minute of inter-circle long distance traffic should ideally be much lower than that what is payable to BSNL. However, as per the IUC Regulation same ADC has been applied to all the fixed line operators which is not justifiable and is causing undue enrichment of the private basic service operators providing fixed line services and is required to be reviewed urgently.

i) BSNL is forced to provide leased lines to the private BSOs and CMSPs at a very low tariff which was prescribed by TRAI vide its Telecommunication Tariff Order 1999. These leased lines are being used by the private BSOs / CMSPs for delivery of their traffic to various SDCAs/ LDCAs of BSNL. The private operators are normally serving the entire circle from one switch using the leased lines provided by BSNL. These leased lines which have been provided by BSNL at a very low cost without any profit margin are, thus, being used for converting the long distance calls into the local calls and hence the distance dependent ADC which would have, otherwise, been accrued to BSNL is no more available. It is, therefore, submitted that BSNL should not be forced to provide these leased lines to the private BSOs / CMSPs at the tariff prescribed by TRAI. In case BSNL provides the intra-circle long distance network to any other competing operator, BSNL should be permitted to charge the commercial rates.

j) To remove some of the anomalies, following alternatives are suggested:-

   i) For intra-circle calls from fixed to cellular networks, no termination charge should be payable by the fixed line operator to the cellular operator. The cellular operator may be compensated by a higher origination/ termination charge from inter-circle long distance calls as well as International calls.

   ii) The ADC payable to the BSOs should be recovered from all long distance calls i.e. fixed to fixed, cell to cell, WLL (M) to WLL (M) and any other combination thereof.

   iii) Where at one of the end there is a fixed operator, the entire ADC should be directly payable to the fixed operator.

   iv) When there are fixed operators on both the ends, the ADC may be divided amongst the fixed operators in proportion to the network cost of the two fixed operators and the applicable deficit because of the difference between the costs based rental and the actual rental being realised by each BSOs.

v) In case of cell / WLL (M) to cell / WLL (M) inter-circle long distance calls, the same amount of ADC should be made applicable. This ADC should be recovered from the long distance operator by the TRAI and should be distributed amongst the fixed line operators in proportion of their deficit on account of lower rentals and local call charges.

vi) Similarly, ADC should be recovered from incoming and outgoing international calls terminating and originating from Cellular / WLL (M) networks and should be distributed as indicated above.

vii) There should be a floor for inter-circle STD calls and ISD calls for all segments of distances. This should include the origination charge, termination charge, carriage charge and the ADC.

k) While reviewing the IUC, the efforts in the direction of modified IUC should be aimed at:

i) That the fixed line operators are adequately compensated for providing the basic telephone services at affordable rental and lower local call charges with a view to keep them within the affordable limits of a common man and enhance the tele-density in rural and urban areas to achieve the targets as envisaged in NTP-1999.

ii) That there is no undue migration of traffic from one network to another network.

iii) That the tariffs are sustained at certain minimum levels to ensure viability of the telecom service providers.

iv) That the tariffs plans are simpler to implement and understandable by the customers.

v) That the customers are not put to any undue inconvenience because of the differential charges applicable for different type of networks.

vi) That enough margins are available for competition in services.

Section 2: Comments from Association Basic Service Providers

a) Introduction of Calling Party Pays (CPP) Regime

The IUC Regulation has introduced the regime of Calling Party Pays (CPP) and this has been mentioned in the regulation itself. Now, through the IUC regulation the TRAI has given cellular operators a mobile termination charge which will have to be paid by the Basic Service consumers. This not only places an unjustified and huge burden on the basic subscribers but also makes tariffs of basic services less affordable. In effect, this means that basic subscribers are subsidizing cellular subscribers. It is surprising to say the least that in a country like India where maintaining affordability of basic telephony itself is a complicated and sensitive task, a huge burden is imposed on 4 crore basic subscribers rendering basic services totally unaffordable in the process.

There was strong opposition from consumers and TRAI's first attempt on CPP was subsequently quashed by the Delhi High Court. Two years later, in 2001, the TRAI again issued a consultation paper on CPP attempting to reintroduce CPP. Once again the process of Open House discussions was followed and the last such discussion was held in November 2001. It was evident from the responses in these open houses which was widely reported by the media that the entire country including some of the large cellular operators themselves that introduction of CPP was not desirable.

Already, cellular operators have been registering a growth of 80 - 100% every year and are continuing to grow at an unprecedented rate. Such growth does not require any additional incentive in the form of CPP. Cellular tariffs have come down due to increased competition and reduced costs in the sector. Introduction of CPP/ MTC is therefore an arbitrary decision and has no basis.

Mobile Party Pays (MPP) regime which is in existence in US, Singapore, Australia and China has been successful in India and should be allowed to continue. The concept of CPP /MTC is not just against the objective of NTP'99 but will also have a negative impact on the growth of Basic Services.

Even the tender for Basic and Cellular Services issued in 1995 demonstrated the intent of the licensor that BSOs require access charges to be paid to them whereas CMSPs who have a cost plus tariff model are not entitled to access charges. No justification has been offered as to why this extra burden of calling needs to be imposed on basic subscribers. There is no explanation as to why cellular network continue to charge airtime and yet be entitled to MTC.

b) Applicability for ADC for intra circle long distance calls from Cellular to Fixed line

ADC must be paid to basic operators from every long distance call in order to ensure sustainability and viability of the Basic services. To ensure this, the IUC regime recovers ADC from various types of long distance calls -- both intra circle and intercircle. However, there is no payment of ADC by cellular operators in case of intra circle long distance calls from a mobile network to a basic network. In contrast, a similar intra circle long distance call from a basic network to another basic network attracts ADC. This is a clear anomaly in the IUC Regulation in as much as Schedule - I of IUC regulation prescribes payment of ADC on all long distance calls, yet Schedule - III & IV are diluting it to exempt CMSPs from paying any ADC on calls from cellular networks which originate or terminate in basic network. The above anomaly has a serious impact on the viability of the basic operators and distorts the level playing field in favour of cellular operators.

c) Bypass of intra circle long distance call revenue

The basic operators have made several representations to TRAI on the issue of bypass on long distance traffic by cellular services over the last few years resulting in loss of several thousands crores to Basic Service Operators. This has happened on account of the peculiar numbering plan of cellular operators is not just in non-conformance with the SDCA linked Numbering Plan but is also a serious breach of the National Numbering Plan of the country.

Apart from this, the cellular numbering plan has caused enormous financial damage to basic operators because it permits easy bypass of intra-circle long distance traffic. We urgently impress upon the TRAI to rectify this very serious anomaly. The bypass issue can be easily addressed by simply adding a "0" before the existing cellular numbers for all calls outside an SDCA.

d) Applicability of ADC for calls by GSM roaming subscribers

The issue highlighted in point "b" above on applicability of ADC for calls from GSM subscribers becomes further complicated when applied to a roaming cellular subscriber. For e.g., when a Delhi mobile subscriber roams to Mumbai and makes call to a land line in Delhi, the termination charge payable to fixed line operators will not include ADC. The reason for this is that the mobile subscriber is roaming freely with the same number and it is not possible to calculate distance based ADC in such a case of roaming. This issue can be addressed by applying uniform ADC for all calls originating from cellular network and terminating into fixed network irrespective of the distance.

e) Cellular to WLL(M) intra circle calls - Enforcement of IUC Regulation

As per IUC regulation, the termination charges for calls terminating into WLL(M) network is Rs. 0.30 per minute (metro) and Rs. 0.40 per minute (circle) for local call and Rs. 0.50 per minute for intra circle calls. However, due to the existing numbering plan of cellular operators, which does not conform to the national SDCA based numbering scheme, it is not possible to differentiate between local and intra circle calls for a cellular originated call. This issue can be addressed by adopting an SDCA based numbering plan for all operators including cellular and applying uniform ADC for all intra circle calls originating from cellular network and terminating in fixed network irrespective of distance.

f) Need for removal of Port Charges

TRAI has stipulated Port Charges for interconnection vide notification dated 28/12/01. These charges are based on the cost for all elements involved in the interconnection. In the present IUC regulation 2003, since the IUC charges are arrived based on all cost elements involved in the calls, payment of port charge impose double charging for the same call. This needs immediate rectification.

g) Pulse rate for reconciliation

The IUC regulation mentions rates on per minute basis. However, there is ambiguity regarding pulse rate for another operator's reconciliation (per minute or per second). This can have a serious impact on the pulse rates charged by access providers in their retail tariff.

h) IUC charges for SMS

Though the IUC regulation does not specify any charge for exchange of SMS between two operators, cellular operators are insisting on payment of IUC charges for SMS. This is absurd since the cellular operators themselves are actually using the CCS7 signalling network of BSNL for exchange of SMS. This needs to be rectified immediately.

i) Uniform ADC versus Differential ADC

The concept of uniform / differential ADC has the potential to cause quite a lot of confusion in the market. Multiple operators in the same circle can start adopting different ADC charging principles. As can be understood, this will result in not just consumers having to pay different tariffs for same distance calls depending on terminating operators - it will also lead to chaos.

Section 3: Feedback from a standalone Basic Service Provider

- To apply a consistent basis o POI billing for incoming & outgoing calls, either call by call using a uniform pulse value or cumulative time basis.
- To apply a consistent principle of specifying originator's share in domestic and international long distance calls.
- Not to charge the carrier share's in case of intra-circle calls terminating fo its cellular subscriber.
- Where the tariffs are below IUC, the originating, carriage and terminating charge should be reduced on pro rata basis.
- Some permanent solution may be found.
- The long distance traffic pattern is shifting in favor of WLL and cellular as long distance form wire line has become more expensive.
- Favoring rich subscribers at the cost of poor subscribers and also favoring urban at the cost of rural. BSNL and other BSOs will become financially not viable.
- PCO segment has been severally affected.
- ADC fund may be created and NLD,ILD,WLL & CMSP operators contribute to this fund.
- The excess of cost and tariff is contributed to ADC fund by NLDO.
- The contributions of ADC fund to be distributed on equitable basis amongst all BSO based on the number of fixed subscribers.
- An uniform ADC or even differential ADC is not the right solution.
- The bundling of Access and long distance should be disallowed.
- TRAI may fix floor pricing on long distance tariffs uniformly for all operators, which should be IUC compliant. .CMSPs should be allowed to

charge air time extra. TRAI may fix long distance tariffs considering the deficit element for BSO.

Section 4: Feedback from a Cellular Service Providers

- The retail tariff should be equal to or higher than the sum of IUC charges of Origination, Carriage and Termination of a call.
- This principle should apply both for peak and off-peak tariff.
- Service Provider may fix a lower off-peak tariff in consultation with the other Service Providers involved in end-to-end completion of a call subject to the concerned operators mutually agreeing to accept the lower IUC charges payable for origination, carriage and termination.
- TRAI may approve the above tariff only after getting the report from Service Provider who files the tariff regarding the agreed lower share of IUC between the service providers
- Access Providers instead of NLDO should set NLD tariff.
- If the retail tariff is lower than the sum of IUC (due to market competition), Service Provider who sets the tariff should bear the difference between IUC and retail tariff unless mutually agreed between the various Service Providers involved.
- The principle of consistency with IUC, non-predation and non-discrimination must be followed while approving the tariff.

  - In case, where the difference between the IUC cost and the retail price should be absorbed by the concerned NLDO.
  - Off-peak tariffs which are below the IUC cost may be reviewed.
  - The difference between the off-peak tariff and the IUC cost shall be absorbed uniformly by the originator, carriage and terminating network.

Section 5 : Feedback from Association : Cellular Service Providers

- Tariff must be cost based.
- Tariff package should be IUC compliant.
- Any tariff less than –10% of IUC value is below cost.
- Tariff below IUC would affect competition and growth of the telecom industry.
- IUC cost should be included in retail tariff to ensure no service provider could offer predatory prices or have discriminatory network interconnection deals.
- TRAI must ensure that all service providers must file component-wise tariffs.
- The billing of end users vs billing for interconnecting operators may be different. The component-wise should not be billed to consumers. The accounts of interconnecting operators should be unbundled.
- The unbundling, if mandated by TRAI, will provide cushion to those operators who lack market power and are at the mercy of integrated players.
- The principle of cost based, IUC complaint should be applied both to peak and off-peak tariff.
- Service Provider may fix a lower off-peak tariff in consultation with the other Service Providers involved in end-to-end completion of a call subject to the concerned operators mutually agreeing to accept the lower IUC charges payable for origination, carriage and termination.
- TRAI may approve the above tariff only after getting the report from Service Provider who files the tariff regarding the agreed lower share of IUC between the service providers.
- Access Providers instead of NLDO should set NLD tariff.
- BSNL tariff should be IUC compliant.

- Calculation given by TRAI in Annexure-I is based on uniform ADC, but BSNL is actually implementing inter-network calls on the basis of differential ADC.

Section 6: Feedback from an Integrated Service Provider

a)

- Access provider should be allowed to devise its own NLD tariffs.
- NLD tariff should be IUC compliant. If NLDO decides tariff, which is below the floor prescribed by IUC, NLDO should bear the deficit .
- To fix a time limit for finding a regular solution. Interim period should not be longer than three months.
- For the interim period, in those slabs where the tariff is below IUC, the origination, carriage and terminating charges should be reduced on a pro-rata basis.
- The option of uniform ADC may be withdrawn.

b)

- The call tariffs under particular tariff plan should be looked in totality and on call by call charge basis.
- The apprehension that standalone operators will retain less money and in a disadvantageous position as compared to integrated player is baseless.
- The regulator should ensure that all operators to follow the principle of non-discrimination.
- If a integrated player offers the same carriage rates to all access providers as offered to its own access division, the standalone operators have a level playing field
- To ensure that integrated operators including incumbent maintain accounting separation in transparent manner.

- In a situation where tariff is below IUC , various alternative solutions are considered on interim basis.
- Long distance IUC carriage rates, especially for short distance carriage are not cost based.
- Due to cellular subscriber's roaming with the same number, it is not possible to calculate distance based on ADC in case of roaming.
- Need for removal of Port Charges.
- IUC rates are per minute. However there is ambiguity regarding the applicable pulse rate for inter-operator reconciliation(per minute or per second)
- IUC regulation does not cover charges for SMS exchange between two operators.
- IUC regulation takes away the flexibility of negotiating IUC rates by stipulating that spot IUC rates to be within +/-10% for long distance calls beyond 50 kms involving fixed line.
- **c)**
- The principle of cost based tariff should be followed.
- Tariff package should be consistent with IUC.
- The retail tariff should not be lower than IUC.
- For cases where the origination charges are forborne, the termination and carriage charges defined in IUC could be used for determining the floor.
- In most cases interconnection charges do not cover the costs of the operators. The stand-alone operators would find it impossible to exist within the industry and only incumbent operators could continue.
- In case non-IUC compliant tariffs are to be implemented, operators, such as the incumbent, offering such tariffs do not require the additional subsidization through prescribed ADC.
- The recent tariffs announced by BSNL is an example which lead a stand-alone basic operator to run the business on losses in a number of cases.

- In almost all scenarios there is a shortage of recovery of IUC in the tariffs. In some cases the shortage is less than 10% margin for negotiation, while in others it exceeds even this margin.
- An interim measure , which does not fulfill the minimum IUC charges should not be permitted to be implemented as this shall defeat the entire purpose of the IUC Regulation.

Section 8 : Feedback from an ILD Operator

- IUC notification 2003 lays down the foundation of charges for origination, carriage and termination
- IUC is on the basis of cost.
- Tariff orders are aimed at protecting consumers interest and for the growth of Telecommunication industry.
- Margin provided on IUC spot rate would encourage operators to build more efficient network and to become more competitive in the international market.
- Discriminatory interconnection agreements must be discouraged.
- In the telecom value chain of a call, the largest value is provided by the operator in whose network the call originates. The origination of traffic and the growth of revenue for the entire chain is at the hand of originating operator.
- If the originating operator decides to operate at a price lower than the values of IUC, originating operator may be blamed for this. The terminating and carrier operators are no hands in discounting of tariff.
- If the situation of out of pocket payment arises, it is restricted to the operator who decides to lower tariff below cost level on basis of IUC.

TABLE 1

STD call charge for Fixed to Fixed Calls
(call duration of 1 minute and pulse charge Rs.1.20 per metered call)

Distance Category	Peak Tariff envisaged at end of Tariff Rebalancing under TTO 1999 (1st April, 2002)	Prevailing rate at present		%age reduction	
		Intra Circle	Inter Circle	Intra Circle	Inter Circle
Upto 50 Kms	1.2	1.2	1.2	Nil	Nil
51 - 200 Kms	4.8	2.4	2.4	50%	50%
201- 500 Kms	10.8	2.4	4.8	78%	56%
501 - 1000 Kms	16.8	2.4	4.8	86%	72%
>1000 Kms	21.6	2.4	4.8	89%	78%

TABLE 2

Access Deficit Estimation

No. of fixed subscribers	40 million
Average cost based rental	Rs. 425 per month
Average rental actually charged	Rs. 200
Deficit per fixed phone per month	Rs. 225
Annual deficit Per fixed line	Rs. 225x12 = Rs.2700
Annual deficit on account of rentals for 40 million Fixed subscribers	Rs. 10,800 Crore
Average number of free calls 30 per subscribers per month	Rs. 1440 Crore
Deficit on this account	
Deficit on account of below cost calls between 0 to 50 Kms (706 calls per subscribers per year. Per call deficit 25 p per call	Rs. 750 Crore
Total Annual Access deficit estimate	Rs. 13,000 crore

TABLE 3

ADC component for various type of Inter-Network Calls

<table>
<tr><th colspan="7">Total ADC in Rs per Minute as per January 2003 notification</th></tr>
<tr><th colspan="2"></th><th colspan="2">Intra Circle</th><th colspan="3">Inter Circle</th></tr>
<tr><th>Type of call</th><th>Local (including upto 50 kms)</th><th>50 to 200 KMs</th><th>Above 200 Kms</th><th>50 to 200 Kms</th><th>200 to 500 Kms</th><th>Above 500 Kms</th></tr>
<tr><td>F to F</td><td>0.00</td><td>1/00</td><td>2.50</td><td>1.00</td><td>2.50</td><td>4.00</td></tr>
<tr><td>F to W</td><td rowspan="2">0.00</td><td rowspan="2">0.50</td><td rowspan="2">1.25</td><td rowspan="2">0.50</td><td rowspan="2">1.25</td><td rowspan="2">2.00</td></tr>
<tr><td>W to F</td></tr>
<tr><td>F to C</td><td rowspan="2">0.00</td><td rowspan="2">0.00</td><td rowspan="2">0.00</td><td rowspan="2">0.50</td><td rowspan="2">1.25</td><td rowspan="2">2.00</td></tr>
<tr><td>C to F</td></tr>
<tr><td>W to C</td><td rowspan="4">0.00</td><td rowspan="4">0.00</td><td rowspan="4">0.00</td><td rowspan="4">0.00</td><td rowspan="4">0.00</td><td rowspan="4">0.00</td></tr>
<tr><td>C to W</td></tr>
<tr><td>W to W</td></tr>
<tr><td>C to C</td></tr>
</table>

TABLE 4

ADC on International Long Distance Calls

Origination / Termination	ADC for ILD In Rs. Per Min
Fixed	5.00
WLL (M)	0.00
Cellular	0.00

TABLE 5

Illustrative IUC Charges for different type of calls

(INTER CIRCLE)								
	> 500 Kms		**200 - 500 Kms**		**50 - 200 KMs**		**0 - 50 KMs**	
	Uniform ADC	**Non uniform ADC**	**Uniform ADC**	**Non uniform ADC**	**Uniform ADC**	**Non uniform ADC**	**Uniform ADC**	**Non uniform ADC**
F - F	5.10	6.10	4.75	4.25	4.45	2.45	0.50	0.50
F - W	3.60	4.10	3.25	3.00	2.95	1.95	0.85	0.85
F - C	3.50	4.00	3.15	2.90	2.85	1.85	0.75	0.75
W - F	3.60	4.10	3.25	3.00	2.95	1.95	0.85	0.85
W - W	2.10	2.10	1.75	1.75	1.45	1.45	1.20	1.20
W - C	2.00	2.00	1.65	1.65	1.35	1.35	1.10	1.10
C - F	**3.50**	**4.00**	**3.15**	**2.90**	**2.85**	**1.85**	**0.75**	**0.75**
C - W	2.10	2.00	1.65	1.65	1.35	1.35	1.10	1.10
C - C	1.90	1.90	1.55	1.55	1.25	1.25	1.00	1.00

Note:

1. WLL(Termination) = 50 Paisa/ Min
2. WLL(Origination) = 50 Paisa/ Min
3 Cellular(Origination) = 40 Paisa/ Min
4. Cellular to Fixed termination charge
 = 50 Paisa beyond 50 Km and 15 Paisa up to 50 Km
5. Fixed origination for calls to cellular = 50 paisa
6 WLL(M) to fixed IUC charges are based on IUC Regulation Schedule-I, with Schedule V being applicable only for intra SDCA calls.

TABLE 6

Illustrative IUC Charges for different type of calls

(INTRA CIRCLE)								
	> 500 Kms		200 - 500 Kms		50 - 200 KMs		0 - 50 KMs	
	Uniform ADC	Non uniform ADC	Uniform ADC	Non uniform ADC	Uniform ADC	Non uniform ADC	Uniform ADC	Non uniform ADC
F - F	5.10	4.60	4.75	4.25	2.45	2.45	0.70	0.70
F - W	3.60	3.35	3.25	3.00	1.95	1.95	0.95	0.95
F - C	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
W - F	3.50	3.25	3.15	2.90	1.85	1.85	0.85	0.85
W - W	2.00	2.00	1.65	1.65	1.35	1.35	1.10	1.10
W - C	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
C - F	**1.20**	**1.20**	**1.20**	**1.20**	**1.20**	**1.20**	**1.20**	**1.20**
C - W	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
C - C	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80

Note:

1. WLL(Termination) = 40 p (For same SDCA) and 50 p (For inter-SDCA)
2. WLL(Origination) = 40 p
3. Cellular(Origination) = 40 p
4. WLL to Fixed termination charge = 60 p (For same SDCA) and 50 p (For Inter-SDCA)
5. Fixed origination charge for calls to Cellular = 60 p
6. WLL(M) to fixed IUC charges are based on IUC Regulation Schedule-I with Schedule V being applicable only for intra SDCA calls.