Telecom Regulatory Authority of India

New Delhi September 17, 1999

In exercise of the powers conferred upon it under section 36 read with clauses (c) and (d) of sub-section (1) of section 11 of the Telecom Regulatory Authority of India Act, 1997 to ensure effective interconnection between different service providers and to regulate arrangements among service providers of sharing their revenue derived from providing telecommunication services, the Telecom Regulatory Authority of India hereby makes the following Regulation.

THE TELECOMMUNICATION INTERCONNECTION (CHARGES AND REVENUE SHARING – FIRST AMENDMENT) REGULATION 1999
(3 of 1999)

1. Short title, extent and commencement:

   (i) This Regulation shall be called "The Telecommunication Interconnection (Charges and Revenue Sharing – First Amendment) Regulation 1999."

   (ii) The provisions of the Telecommunications Interconnection (Charges and Revenue Sharing) Regulation 1999 shall, to the extent of their variance with this Regulation, be deemed to have been repealed.

   (iii) In this Regulation, "Act" means the Telecom Regulatory Authority of India Act, 1997.

2. In Schedule I of the Telecommunication Interconnection (Charges and Revenue Sharing) Regulation 1999, with effect from the date of implementation of calling party pays (CPP) for cellular mobile, Items 1, 2, 3 and 4 shall be substituted, and note (a.bis) be added, to read as under:

ITEM	**REVENUE SHARING FOR BASIC SERVICES**
(1) Date of Implementation	01 November, 1999
(2) Coverage	Calls originating in a basic service provider's network and terminating in: • a cellular mobile network, either directly or after transiting through another/other basic service network/networks; • another basic service network either directly or after transiting through another basic service network.
(3) Local calls	

(see note a.bis)	
(3.a) To cellular mobile subscriber (for calls directly handed over to the terminating network)	For each answered call, the originating service provider to pay a mobile termination charge (MTC) to the terminating cellular mobile network as follows: **Duration of the answered call (seconds)** — **MTC to be paid (Rs.)** Less than 60 seconds — 1.60 60 seconds or more, but less than 120 seconds — 2.40 Each subsequent unit of An additional 60 seconds — 0.80
(3.b) To cellular mobile subscriber (for calls handed over to the terminating network through a transit network)	For each answered call, the originating service provider to pay to the transit network as follows: (a) An amount for MTC as specified in Item (3.a) above And (b) An amount for usage charge to the transit network as follows: • Rs. 0.40 for duration of the answered call less than 60 seconds, and • Rs. 0.20 for each subsequent unit interval of 60 seconds calculated from 60 seconds onwards.
(3.c) Calls to basic service subscriber	Bill and keep for each service provider.
(4) Domestic long distance calls	
(4.a) To cellular mobile subscriber (for calls directly handed over to the terminating network)	For each answered call, the originating service provider to pay a mobile termination charge (MTC) to the terminating cellular mobile network, as specified in Item (3.a) above, i.e.: • Rs. 1.60 for the duration of the answered call of less than 60 seconds, and • Rs. 0.80 for each subsequent unit interval of up to 60 seconds calculated from 60 seconds onwards.

(4.b) To cellular mobile subscriber (for calls handed over to the terminating network through a transit network)	For each answered call, the originating service provider to pay to the transit network as follows: (a) An amount for MTC as specified in Item (3.a) above, i.e. • Rs. 1.60 for the duration of the answered call of less than 60 seconds, and • Rs. 0.80 for each subsequent unit interval of up to 60 seconds calculated from 60 seconds onwards. And (b) An amount for usage charge to the transit network as follows: • Rs. 0.48 per unit of measured call for traffic delivered from its network to the network of the transit basic service provider with the call units measured at the point of interconnection for its further carriage from the point of interconnection to destination, based on the STD pulse rate applicable to calls from basic to basic service subscriber. The MTC as specified above shall be handed over by the transit network to the terminating cellular mobile network, or in case of additional transit networks being involved MTC to be passed on via these transit networks to the terminating cellular mobile network;
(4.c) Calls to basic service subscribers	Rs. 0.48 per unit of measured call for traffic delivered from its network to the network of the transit basic service provider for the call units measured at the point of interconnection for its further carriage from the point of interconnection to destination, based on the STD pulse rate. Provided no such charge shall be payable if the point of interconnection is at the destination Short Distance Charging Area (SDCA) and also provided that no such charge will be payable if the terminating service provider requests that the call be handed over by the originating/transit service provider at an SDCA other than the destination SDCA. **Notes:** (a.bis) For calls from basic service subscriber to cellular mobile, "local calls" are calls for which the basic service portion of the call is within the same charging area as for the calling party.

3. In Schedule II of the Telecommunication Interconnection (Charges and Revenue Sharing) Regulation 1999, with effect from the date of implementation of calling party pays (CPP) for cellular mobile, Items 1, 2, 3, 4, 5, 6 and note (a) shall be substituted to read as under:

ITEM	**REVENUE SHARING FOR CELLULAR MOBILE**
(1) Date of Implementation	01 November, 1999

(2) Coverage	(a) Calls originating in a cellular mobile service provider's network and transmitted through or terminated in another service provider's network; (b) Calls, other than those covered under (a) above or in Schedule I above, that terminate in a cellular mobile network.
(3) Local calls from cellular mobile to: **(3.a) Basic service subscriber**	Payment by originating service provider to basic service provider at the rate of Rs. 1.20 per unit of metered call, with the number of metered calls measured at the point of interconnection using the pulse rate applicable to a local call by basic service subscriber.
(3.b) Cellular mobile subscriber (for calls directly handed over to the terminating network)	For each answered call, the originating service provider to pay a mobile termination charge (MTC) to the terminating cellular mobile network as follows: **Duration of the answered call (seconds)** — **MTC to be paid (Rs.)** Less than 60 seconds — 1.60 60 seconds or more, but less than 120 seconds — 2.40 Each subsequent unit of An additional 60 seconds — 0.80
(3.c) Cellular mobile subscriber (for calls handed over to the terminating network through a transit network)	For each answered call, the originating service provider to pay to the transit network as follows: (a) An amount for MTC as specified in Item (3.b) above, i.e. • Rs. 1.60 for the duration of the answered call of less than 60 seconds, and • Rs. 0.80 for each subsequent unit interval of up to 60 seconds calculated from 60 seconds onwards. And (b) Usage charge at a rate applicable to local call by basic service subscriber, the amount to be calculated on the basis of Rs. 1.20 per unit of metered call, with number of metered calls measured at the point of interconnection. The MTC specified above shall be handed over by the transit network to the terminating cellular mobile network, or in case of additional transit networks being involved MTC to be passed on via these transit networks to the terminating cellular mobile network.

<u>(4) Domestic Long distance calls from cellular mobile to:</u>	
(4.a) Basic service subscriber	The originating service provider to pay the basic service provider at a rate applicable to domestic long distance calls. The charge shall be Rs. 1.20 per unit of metered call, with the number of metered calls measured at the pulse rate applicable to long distance calls to basic service subscriber, and the chargeable distance equal to the distance of the call carried by the basic service provider for an equivalent STD measured from point of interconnection to destination.
(4.b) Cellular mobile subscriber (for calls directly handed over to the terminating network)	For each answered call, the originating service provider to pay an amount for MTC as specified in Item (3.b) above, i.e. • Rs. 1.60 for the duration of the answered call of less than 60 seconds, and • Rs. 0.80 for each subsequent unit interval of up to 60 seconds calculated from 60 seconds onwards.
(4.c) Cellular mobile subscriber (for calls handed over to the terminating network through a transit network)	For each answered call, the originating service provider to pay: (a) A mobile termination charge (MTC) to the terminating cellular mobile network as specified in Item (3.b) above, i.e.: • Rs. 1.60 for the duration of the answered call of less than 60 seconds, and • Rs. 0.80 for each subsequent unit interval of up to 60 seconds calculated from 60 seconds onwards. And (b) Usage charge to the transit network at Rs. 1.20 per unit of metered call, with the number of metered calls measured at the pulse rate applicable to basic service long distance calls, with the chargeable distance equal to the distance of the call carried by the basic service provider for an equivalent STD call to basic service subscriber, measured from point of interconnection where call is handed over to the basic service provider. The MTC specified above shall be handed over by the transit network to the terminating cellular mobile network, or in case of additional transit networks being involved MTC to be passed on via these transit networks to the terminating cellular mobile network.
<u>(5) International calls from cellular mobile</u>	Payment to basic service provider at a rate applicable to international calls. The charge shall be Rs. 1.20 per unit of metered call, with the number of metered calls measured at the point of interconnection at a pulse rate applicable to an equivalent international call made by a basic service subscriber.
<u>(6) International calls to cellular mobile subscriber</u>	The terminating cellular service provider to receive: • Rs. 1.60 for the duration of the answered call of less than 60 seconds, and • Rs. 0.80 for each subsequent unit interval of up to 60 seconds calculated from 60 seconds onwards. The payment of this amount is to be made by the service provider handing over the call to the terminating cellular mobile network.

	Notes: (a) The definition of "local calls" to ascertain revenue sharing with basic service providers for calls carried by them is the same as in notes (a) and (a.bis) in Schedule I.

Notes:

1. Call-forwarding to be treated as two call-components, one from calling party to called party prior to call being forwarded, another from called party to the point where call is forwarded. Revenue sharing in this Regulation to apply to each of the two components separately, as if they are two different calls.

2. Roaming to be treated as two calls, similar to call-forwarding. One is from calling party to the called party, prior to the transfer of the call (if any) to the called party in case of roaming. The other, in case of roaming, is from the home location of the called number to the roamer. Revenue sharing in this Regulation to apply to each of the two components separately, as if they are two different calls.

3. This Order contains at Annex A, an Explanatory Memorandum – 1 that explains the reasons for this amendment to the Telecommunication Tariff Order 1999.

BY ORDER

Harsha Vardhana Singh
Economic Advisor

ANNEX A
EXPLANATORY MEMORANDUM - 1

1. A calling party pays (CPP) regime has been made effective from 1 November, 1999 through the Telecommunication Tariff (Fifth Amendment) Order 1999. The CPP regime involves changes in tariffs for basic and cellular mobile subscribers, as well as introduction of a revenue sharing arrangement among these service providers. Revised tariffs for the CPP regime have been notified by the Telecommunication Tariff (Fifth Amendment) Order 1999. This Regulation provides the revised regime for revenue sharing among various service providers as a result of implementing CPP for cellular mobile.

2. The main feature of a CPP regime for cellular mobile is that no payment is made for incoming calls by the cellular subscriber. The present standard cellular mobile tariff for incoming and outgoing calls is based on costs incurred by the cellular mobile service provider. In a system of cost-based tariffs, to the extent tariffs do not cover costs (such as for incoming calls in a CPP regime), revenue from some other source should cover the costs incurred. Under CPP, normally such revenue is obtained by the cellular mobile service provider in the form of a share of revenue earned by the basic service network from calls made to cellular mobile.

3. The cellular mobile service provider should receive a revenue share for the calls that terminate on its network because the cellular mobile service provider must be paid for the task performed by its network in completing the call.

4. The Authority is in the process of preparing a consultation paper on access/usage charge which will determine usage charges that must be paid to different networks for their contribution towards carriage/completion of a call. In this Regulation, the revenue share specified for cellular mobile is not a cost-based usage charge, but only an ad interim revenue share to be replaced later by usage charge (revenue share) based on a more detailed analysis of the costs involved. In due time, that system will replace the prevailing system under which for calls handed over to the basic service network a charge of Rs. 1.20 per metered call unit (i.e. the maximum call charge) is paid by the cellular mobile service provider, and the terminating cellular network does not receive any revenue share for calls handed to it by the basic service network.

5. The Authority's second Consultation Paper on tariffs (Consultation Paper No. 98/3, dated 9 September, 1999) discussed in some detail the tariffs for calls from basic to cellular mobile and the revenue shares of these networks in these calls. The Consultation Paper had suggested that calls made by basic service subscriber to cellular mobile subscribers be charged at Rs. 3.90 per minute, and 85 per cent of this amount be passed on to the cellular mobile service provider. The Paper also showed that implementation of CPP for cellular mobile involved a higher call charge for calls from basic to cellular mobile than for calls from basic to basic network. This is because:

- calls to cellular mobile are premium calls because these calls enable contacting a person on the move;
- the revenue share to be provided to cellular mobile also implies the need for a higher call charge for calls from basic to cellular mobile.

6. The Authority has received several comments on its proposals in the second Consultation Paper on tariffs regarding both the charge for calls from basic service to cellular mobile and revenue share to be provided to cellular mobile under CPP. The introduction of CPP is supported in general. However, some state that a tariff of Rs. 3.90 per minute (or of Rs. 3.60 per minute subsequent to the tariffs specified in Telecommunication Tariff Order ("TTO") 1999) is too high an amount, and will discourage calls being made from basic service subscriber to cellular mobile subscriber. Further, basic service providers want to retain 40 to 50 per cent of the amount charged per minute for such calls, while the cellular mobile service providers want a share larger than 85 per cent proposed in the second Consultation Paper on tariffs. Both support their claims on the grounds that their revenues would decline in the alternative scenario.

7. In the course of the Authority's consideration of the tariff regime under CPP, there was a major policy development that led to an ad interim change in the license fee payments by cellular service providers. Under the new regime, there would, in general, be a substantial reduction in the license fee payments by the service providers. The reduction in license fee, which is an element of cost, would improve the viability of the service providers. The Authority recognizes that there is still a measure of uncertainty about the application of the revenue share arrangement. However, the Authority is of the opinion that when there are substantial cost changes, the tariff should reflect these changes. For instance, with the cost decrease encompassed in the migration to the new license fee regime, the benefit should be passed on also to the customer in the form of lower tariffs. Consequently, the Authority prepared a consultation paper (Consultation paper No. 99/4, dated 31 August, 1999) based on quick estimates, and proposed certain tariff reduction arising due to the changed license fee regime within a framework of CPP for cellular mobile.

8. In this paper, the Authority proposed lower tariffs for customers on an ad interim basis, till the final license fee regime was specified. These proposals included, inter alia, a low charge for calls from basic service to cellular mobile, and a revenue share of Rs. 0.60 per metered call for the terminating cellular network. To provide a reasonable initial revenue share, calls to cellular mobile were proposed with a double pulse instead of the normal single pulse. A pulse rate of 120 seconds was specified thereafter. The proposal basically encompassed an objective of not introducing in the interim tariff regime any substantial change in the prevailing tariffs for calls from basic service to cellular mobile. An underlying consideration of the proposal was also that the proposed tariffs were ad interim, and the low revenue share for cellular mobile could be sustained for the interim period of application.

9. Consultations held on the proposals in Consultation Paper of 31 August, 1999 suggested that the proposed tariff and revenue sharing regimes would likely encourage an increase in incoming calls, including

due to call-back from basic service to cellular mobile. Even within the interim period for the proposed tariffs, this was likely to lead to an enhanced adverse effect of a below-cost amount provided to cellular mobile service providers for incoming calls.

10. As mentioned in the Telecommunication Tariff (Fifth Amendment) Order 1999, the Authority has taken account of certain comments in the present exercise, and will address some of them (e.g., cash flow situation of service providers) in the more detailed forthcoming consultation process to assist the Authority in recommending the percentage of revenue share that should be charged as license fee.

11. While bearing in mind that the tariffs and revenue shares are being specified only as ad interim measures, the Authority has decided to deal with the likely large increase in incoming calls and call-back to cellular mobile in two different ways:

- it has introduced certain tariff changes that would reduce the incentives for call-back;
- a slightly higher revenue share is provided from basic service to cellular mobile network.

12. As explained in greater detail in the Telecommunication Tariff (Fifth Amendment) Order 1999, the initial pulse rate for outgoing calls from cellular mobile has been specified at 60 seconds, followed by pulse rates of 30 seconds each. The pulse rate for local calls from basic to cellular mobile has been specified as double pulse on answer, followed by a pulse rate of 60 seconds. The consequent increase in tariffs has been kept much below international experience for tariff rationalization that has accompanied the introduction of a CPP regime.

13. Available data suggests that the average duration of a local call from basic to cellular mobile is less than two minutes, and in certain cases is slightly less than one minute. For such average duration, the charge for these premium calls will become two to three time the present charge. This is substantially below the charge proposed in the second Consultation Paper on tariffs, and below the general call charge differential that characterises the international situation. The reasons for this include:

- it is desirable to keep average charges for subscribers at a level lower than that specified in the paper;
- the pulse rates specified by the Authority help maintain a reasonable revenue level for the basic service operator because CPP is expected to increase the revenue base for cellular mobile (and even basic services) due to an increase in cellular mobile subscriber base as well as greater likelihood of calls being answered by the called party;
- at present, a number of calls to cellular mobile are not answered, which results in no revenue earned for the call despite the network having performed its task of call carriage (i.e. despite the cost having been incurred). With CPP, these calls will generate revenues for the originating network (including basic services) because more calls to cellular mobile will be answered than at present.

14. The Authority has decided that Rs. 0.80 per metered call unit should be provided to the terminating cellular mobile network. Further, this amount (hereinafter termed as the "MTC") must be provided for all calls that originate from or transit through a basic service network. Thus, for each such call answered by the called party, the terminating cellular mobile network should get paid the following MTC by the originating network as follows:

- Rs. 1.60 for the duration of the answered call up to 60 seconds, and
- Rs. 0.80 for each subsequent unit interval of up to 60 seconds.

15. The above MTC scheme has been devised on the basis of a notional charge of Rs. 1.20 per metered call unit for local calls from basic to cellular mobile. Of the amount, given that there is a double pulse on answer, two-thirds is to be the revenue share of the cellular mobile terminating network.

16. The Authority considered the comment of the basic service providers that even Rs. 0.60 per metered call unit was too high an amount to be paid for incoming calls to cellular mobile. This comment was mainly on the basis that tariff for certain calls from basic service subscriber was below Rs. 1.20, i.e it was zero, Rs. 0.60, Rs.

0.80 or Re. 1 per metered call unit. The Authority noted that other than certain free calls, the standard tariffs specified by it were Rs. 0.80 and Rs. 1.20 per metered call unit for rural subscribers, and Re. 1 and Rs. 1.20 per metered call unit for urban subscribers. Tariffs lower than these rates are part of the alternative tariff package and the responsibility of the service providers that gives that alternative tariff package. Moreover, even if one considers these alternative tariffs, the revenues are likely to be much higher.

17. The analysis of the basic service providers is made in a static framework where MTC is compared with subscriber tariff. In a network with large portion of costs accounted by fixed costs, an increase in usage (which is a normal result of moving to CPP scheme for cellular mobile) provides additional revenues for the fixed costs incurred. This implies that the costs per unit call also decrease with a rising number of calls made, including for calls that presently are carried on the network but are not answered by the cellular mobile subscriber because of the high tariff for incoming calls in cellular mobile.

18. Another important point to take into account is that the Authority has not reduced the payment received (at Rs. 1.20 per metered call unit) by the basic service provider for calls from cellular mobile terminated in (or transiting through) the basic service network. This is the highest tariff rate applicable to local calls, and exceeds that likely to apply in a reasonable interconnection framework to a network which provides bulk calls to the basic service network.

19. Bearing the above factors in mind, the Authority has decided that the ad interim revenue share encompassed in this Regulation is a balanced one. Further, this interim regime will be replaced next year by a cost-based access/usage charge interconnection and revenue sharing regime.

20. In the initial stage of CPP, a simple scheme for MTC needs to be implemented. Thus, the cellular service provider in a particular service area has to be paid MTC for all calls terminating in its network (including international calls), except those made from its own network (i.e. except for intra-network calls). The MTC for international calls will be paid by the network that hands over the call to the terminating network. This is in effect a charge paid for terminating the call on the cellular mobile network out of the proceeds received from foreign networks for carrying and terminating a call in the domestic territory.

21. Further, the amount of MTC specified above will remain the same for the entire 24 hour period of the day. Once detailed billing and calling line identification facility is available in general, and local calls could be easily separated from STD and other calls, a change in this system of constant MTC would be considered by the Authority. The Authority expects that detailed billing facility and calling line identification will be installed in two-thirds of the relevant exchanges within a period of six months, and in all of them within a period of one year from the date of publication of this Regulation.

22. In addition to the tariffs for local calls to cellular mobile, the Telecommunication Tariff (Fifth Amendment) Order 1999 specifies tariffs for STD calls to cellular mobile. The STD pulse rates for these calls are the pulse rate are derived in such a manner that for STD calls in each distance category, there is adequate amount for paying MTC to the terminating cellular mobile network.

23. If networks of the originating and terminating service providers are directly connected then the originating service provider shall directly pay the requisite amount of MTC to the terminating service provider. Otherwise, the MTC amount will be handed over by the initiating network to the transit network provider. The payment of MTC will be passed on to the terminating network in the same ("chain-like") manner as payment of usage (or interconnection) charges.

24. Except for the payment of MTC to the terminating cellular network, the conditions for interconnection charge and revenue sharing remain similar to those notified earlier in the Telecommunication Interconnection (Charges and Revenue Sharing) Regulation 1999. Hence, for STD calls from basic service subscriber to cellular mobile and local and STD calls from cellular mobile to cellular mobile that transit through a basic service network:

(a) an amount of Rs. 0.48 per metered call (measured at the point of interconnection) has to be paid by the originating network to the transit basic service network if the call originates from a basic service subscriber;

(b) an amount of Rs. 1.20 per metered call (measured at the point of interconnection) to be paid by the originating network to the basic service transit network if the call originates in cellular mobile network;

(c) for STD calls from cellular mobile to cellular mobile that transit through basic service network, the metered calls have to be measured using the pulse rates applicable to STD calls from basic service subscriber to basic service subscriber;

(d) in addition to these amounts, MTC has to be given to the transit service provider to pass it on to the terminating cellular mobile network.

25. The total payment of MTC to be paid to the interconnected service provider will be determined on the basis of bulk billing at monthly intervals. Bills would be raised by the service provider to whom payment is due, and the undisputed amount be settled first. Subsequently reconciliation/verification could be carried out among the interconnected service providers for settlement of the un-reconciled amount. The terms and conditions for settlement of the bill among two service providers should be the same for all service providers involved, i.e. all should be subject to the same conditions.

26. In this regard, the Department of Telecommunications (DOT) has written to the Authority that the conditions applicable to it should be less onerous than those to the private sector. For instance, being a Department of the Government of India, the DOT states that it should not be required to provide any security deposit, while such a deposit may be required for the private sector service provider. Similarly, instead of the service provider who has to be paid for its services raising the relevant bill, the DOT wants to raise all the relevant bills itself, and to subject the other service providers to certain specified payment conditions relating to those bills. One reason given for this is that the amount due to be paid to the DOT would always be more than the amount to be paid to other service providers.

27. The Authority has noted that the DOT interacts with other service providers in the context of interconnection and revenue sharing as a service provider. The conditions applicable to all service providers should be the same. Thus, any condition that apply to one service provider (e.g. the DOT) should apply also to other service providers, and vice versa.

28. The situations regarding roaming and call forwarding have been treated as comprising two calls. For example, roaming should be conceptualized as two calls, one to the home of the roamer and the other from home to another place when the roamer is not home. The first call should be treated as any other call, and the revenue sharing should apply in the manner specified above. The second portion of the call (i.e. the roaming component) is subject to forbearance with respect to interconnection charges and revenue sharing.

29. Likewise, call forwarding should be treated as two calls, one from the calling party to the called party prior to forwarding, and second from called party prior to forwarding to the party to whom the call has been forwarded. Each of these two call segments should be treated as two separate calls, and be subject to revenue sharing as specified in general for different types of calls. The calling party for the first segment is the initial calling party, and for the second segment the calling party is the party that has forwarded the call.