TELECOM REGULATORY AUTHORITY OF INDIA NOTIFICATION

NEW DELHI, THE 4th JULY 2002

No. 312-5/2002- TRAI(Eco)

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication services within India and outside India shall be provided:

The Telecommunication Tariff (Twenty Second Amendment) Order 2002 (6 of 2002)

Section I

Title, Extent and Commencement

1. Short title, extent and commencement:

i) This Order shall be called "Telecommunication Tariff (Twenty Second Amendment) Order 2002".

ii) The Order shall come into force from the date of its Publication in the Official Gazette of India.

Section II

In Schedule I (Basic Services other than ISDN) of the Telecommunication Tariff Order, 1999 as amended by "The Telecommunication Tariff (Fourteenth Amendment) Order 2001", with effect from the date of implementation of tariffs, usage charge registration etc. for WLL (Mobile).

i) Sub-clause 4.d of Item 4 of Schedule I shall stand substituted by the following ;

(4) Deposits	
(4. d) Handset for Limited Mobility telephony service using wireless in local loop technology if provided by service provider	Ceiling of Rs. 6,000; to be refundable in full on cessation of service to the subscriber

ii) Sub-clauses 5.d and 5.e of Item 5 of Schedule I shall stand substituted by the following ;

(5) Monthly Rental for rural subscribers **(5.d) For Limited Mobility telephony service using wireless in local loop technology**	Rs. 200.00 per month
(5.e) For Limited Mobility telephony service using wireless in local loop technology if handset provided by Service provider, without a deposit as stipulated in (4.d) above.	As in (5.d) above Plus Ceiling of Rs. 50.00 per month. This ceiling applies to all other amounts including, for example, depreciation, and insurance premium, but excluding deposits.

iii) Sub-clauses 6.d and 6.e of Item 6 of Schedule I shall stand substituted by the following;

(6) Monthly Rental for Urban subscribers **(6.d) For Limited Mobility telephony service using wireless in local loop technology**	Rs. 200.00 per month
(6.e) For Limited Mobility telephony service using wireless in local loop technology if handset provided by Service provider, without a deposit as stipulated in (4.d) above.	As in (6.d) above Plus Ceiling of Rs. 50.00 per month. This ceiling applies to all other amounts including, for example, depreciation, and insurance premium, but excluding deposits.

iv) In the Explanatory Notes at the end of Schedule I, items "gg" and "o" stand deleted.

Section III

EXPLANATORY MEMORANDUM

This Order contains at Annex A, an Explanatory Memorandum to provide clarity and transparency to the tariffs specified in this Order.

By Order,

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

ANNEX "A"

EXPLANATORY MEMORANDUM

1. On 24th May, 2001 the TRAI notified tariffs for wireless in local loop with limited mobility (hereinafter "WLL (M)") vide the Fourteenth Amendment of its Telecommunication Tariff Order 2001 (hereinafter "TTO 14th Amendment"). In that notification the Authority had stated that in view of the likely changes in the cost and market situation in the next few years it will review monthly rentals for WLL (M) each year for the next three years.

2. The Authority initiated its review of the monthly rentals for WLL (M) this year by obtaining information on the latest cost figures from the basic service operators. Basic Service operators were requested to send details of costs per line for WLL(M) Services based on a framework that was provided by TRAI. The format was similar to that adopted in the last year's exercise. In response, service providers reported information on their cost per DEL based on their deployment plan. The cost data were provided by all the established basic service operators, except two: these two stated that they did not intend to deploy WLL (M).

3. The data submitted to the Authority were examined and discussed with the service providers in meetings where presentations were made by the operators to explain both the basis of their cost derivation, the network configuration and compliance with license conditions. The data showed a wide variation in costs as well as in the deployment of the service (i.e. Roll Out). Furthermore, different sets of assumptions had been made by Operators regarding traffic per DEL, radio coverage (No. of BTS), coverage of Rural SDCAs etc. In view of this wide variation, data were sought from them in a revised format designed to give per DEL cost data relating to the different subscriber bases of 2500, 5000, 10000, 20000 and 50000. These configurations had been considered during the exercise last year also, so as to plan deployment of WLL (M) services consistent with its roll out prescribed in the Recommendations of the Group on Telecom and Information Technology Convergence ("GOT-IT"). In relevant part, this Recommendation reads as follows:-

   "The Group also noted that since this facility was being suggested for accelerating development of telecom services particularly in rural areas, the manner in which spectrum would be made available had to ensure that this object was achieved. The Group would therefore advise that Short Distance Charging Areas (SDCA) should be divided into three sub-categories: viz (1) Rural, (2) Semi-urban, and (3) Urban (a categorization familiar in census operations). For the purpose of coverage of Short Distance Charging Areas (SDCA), it was felt that each of these categories should be equally covered for each phase of the roll out prescribed - that is to say in the first phase, where 15% of the short distance charging areas are to be covered in a circle, each of the three categories should be covered by the operator in equal proportions , and achievement must be ensured; subject only to this that if there is better performance than prescribed in the rural, and semi-urban sub categories this should not be considered a violation of the prescribed roll out."

4. Accordingly the service providers were requested to provide data for five different configurations, viz. with subscriber bases of 2500, 5000, 10000, 20000 and 50000 subscribers. This information together with the required roll out specification i.e. coverage of Rural, Semi-urban and Urban SDCAs in equal proportions was used to obtain estimates which would serve as norms. For this exercise, Rural SDCAs were considered as corresponding to subscriber base slabs of 2500 and 5000. In Semi-Urban SDCAs the corresponding subscriber base was taken to be 5000 and 10000 and in the case of Urban SDCA Networks, corresponding capacity was taken to be in the slabs of 10000, 20000 and 50000.

5. All operators were requested to give dimensioning figures complying with the licensing conditions particularly in respect of Clauses 2.2.(c)(i) & (iii) and clause 9.3. The main features of the framework in which the figures were called for were as follows:

(a) Traffic per subscriber was taken as 25 Milli Erlang for Rural SDCAs, 35 Milli Erlang for Semi Urban SDCAs and 50 Milli Erlang for Urban SDCAs. Traffic values were decided based on reference to Wireline traffic data available with TRAI for many Telecom Circles.

(b) Cost details were sought for values corresponding to 1RF/3 Sector and 2 RF/ 3 Sector configuration.

6. Data based on the format evolved for arriving at the normated cost were submitted by four of the basic service operators. One service provider did not submit the data in the required format because its scope of the service covered only urban areas. Another service provider was not in a position to provide recent estimates in the prescribed format.

7. These data were examined further in meetings with the service providers, to understand clearly the underlying assumptions made by them. Discussions showed that network configuration would be executed mainly with 1RF and 2RF. However, in their feedback to TRAI, a few operators also reported the use of 3RF. The Authority is of the view that all the Operators in the initial years would in general try for gradual augmentation of Base Stations for better radio coverage and then adopt 3RF or 4RF configurations or even 6 sector configurations. In any case, these likely later developments could be addressed in the annual review of the WLL (M) rentals next year. For the present exercise, it would be realistic to take into account only 1RF and 2RF configurations for BTS in the normation exercise.

8. The main costs calculated for the normation exercise include BTS, BTS Tower & Antenna, Battery & Power Plant, BTS building, BSC, BSC Building, Battery and Power Plant, Intra-BSC OFC and other transmission costs, Local Exchange, SDCC Tandem port and OFC / transmission elements between BSC to LE and LE to SDCC tandem. However it was also observed that in most cases BSC, LE and SDCC tandem could be co-located i.e. could be in the same location and as a result OFC/ transmission cost on this count is NIL or negligible.

9. An important feature that emerged in the assessment of costs was that those who had ordered or planned to order for a larger network had obtained substantially lower costs. This was the case for both the incumbent as well as one of the private sector operators. In the case of the latter, the costs were too low also because these were based on High Traffic handling configurations. In the circumstances, it was considered necessary to moderate the cost components. For this purpose, the costs related to the incumbent were applied to this private service provider's BSC, Building (rental component for BSC), and Digital Switch, instead of the abnormally low values as a result of the costs being based for Systems with very high traffic capacities. This service provider has reported the lowest costs, and the estimates given later show that even with this moderation, its cost- based monthly rental continues to be the lowest.

10. Based on the normated cost data, detailed calculations were worked out for configuration with

- 1RF/ 3 Sector 2500 lines for Rural SDCA
- 2RF/ 3 Sector 5000 lines for Rural SDCA
  Simple Average was worked out for Rural SDCAs from the above two values

- 2RF/ 3 Sector 5000 lines for Semi-Urban SDCA
- 2RF/ 3 Sector 10000 lines for Semi-Urban SDCA
  Simple Average was worked out for Semi-Urban SDCAs from the above two values

- 2RF/ 3 Sector 10000 lines for Urban SDCA
- 2RF/ 3 Sector 20000 lines for Urban SDCA
- 2RF/ 3 Sector 50000 lines for Urban SDCA
  Simple Average was worked out for Urban SDCAs from the above three values

11. As there are 288 Urban SDCAs, 1874 Semi-Urban SDCAs and 486 Rural SDCAs in the country and as per the license roll out requirements, coverage of all the three type of SDCAs is to be achieved in equal proportions, weighted averages for WLL(M) rentals were worked out for the configurations mentioned above, taking the capital costs up to the Short Distance Charging Centre (SDCC) tandem ports. It may be noted that Local Network stops at SDCC and any cost beyond SDCA would be part of Long Distance service.

12. It is noteworthy that whereas the cost estimates provided by one of the operators are based on actual orders, those from the others are based on negotiations and invoices, some times not very recent ones. The cost estimates provided by the operator with the lowest costs are, however, based on certified offers made by the equipment provider. Further, the network structure of the operator whose cost estimates are based on actual orders fully meets the conditions that were emphasized by the Authority in its methodology for calculating the monthly rental for WLL (M) last year. Moreover, this service provider has a presence in most parts of the country, and the costs relevant to it can be considered as applicable, on average, across the country.

13. Last year, the Authority had addressed the issue of handset cost in two different ways. One was to allow the service provider to take a deposit up to a specified amount. Another was to allow the operator to charge an additional amount for monthly rental. This year too, the same methodology has been adopted. The cost of a handset for WLL (M), however, is much lower this year. These options would become relevant if the subscriber does not make his own arrangements for the handset.

The cost based estimates of monthly rentals for WLL (M)

14. The Annex contains a Table showing the cost based monthly rentals for four operators whose data with some moderation form the basis of these calculations. The estimates of cost-based monthly rental have been arrived at by applying an annual recurring expenditure (ARE) of 22 per cent on the capital cost per subscriber, and then adding the following:

    - the revenue share license fee (8 per cent for Circle "C", 10 per cent for Circle "B", and 12 per cent for Circle "A" and metros); and,

    - 2 per cent revenue share as charge for spectrum.

15. The estimates have been calculated taking due account of the required roll out in the Rural, Urban and Semi-Urban SDCAs. In the detailed calculations, averages for individual SDCAs as well as the weighted average across the SDCAs were worked out. The Table in the Annex, however, provides only a summary of these estimates.

16. The Annex Table indicates the lowest and highest estimates for monthly rentals, as well as the simple average. A noteworthy feature in this context is that the two service providers with relatively lower rental estimates have planned their presence in many more License areas than the others. Thus, if a simple average were to be calculated in terms of License areas, that average estimate would be below the average shown in the Table in the Annex.

17. The Authority recalled that last year, for the WLL (M) monthly rentals it had fixed a range because of the wide variation in costs, and the highly tentative nature of the available cost data and roll-out plans. For example, in paragraph 31 of the Explanatory Memorandum to the 14th Amendment to TTO 1999 it states as follows:

"In view of wide variance in the estimates of cost based rentals and the highly tentative nature of the available cost data and roll-out plans, the Authority is of the view that fixing one single representative rental or a "spot rental" is neither feasible nor desirable at this stage. It has, therefore, been decided to specify a range for cost based rentals, or a ceiling and a floor. The fact that a range defined by the ceiling and floor rather than a single figure is being recommended also addresses the uncertainties of the present roll-out plans of the operators, difficulties of correctly dimensioning the network and costing it based on accurate estimates of the cost of network elements etc. for a service which is being introduced for the first time."

18. The Authority also recalled that the specification of a range was not its preferred choice. If there were greater certainty with respect to the cost models last year, it would have preferred to not specify a range. In paragraph 9 of the Explanatory Memorandum to TTO 14th Amendment, the Authority had stated that:

"Based on the computations shown in Table 1, the Authority would like to specify a floor rental of Rs.450/- and a ceiling of Rs. 550/- per month. Ideally, it would have liked to specify a spot rental, but a floor and ceiling is being specified both due to the highly tentative nature of estimates of various sizes of WLL(M) systems, and also the difficulty in correctly estimating demand in the three SDCA categories, so that appropriate cost models are used against each category. The Authority feels that without the constraint of covering all the three categories in equal proportion, the rental for WLL(M) would have worked out to about Rs. 400/- per month."

19. The Authority has come to the conclusion in the present review exercise that there is now much greater certainty about the cost estimates. For instance, in the case of the costs relating to the dominant incumbent operator, the estimates are based on actual orders. In the case of the operator with the lowest costs and on the present reckoning with the largest planned coverage among the private sector operators, the costs are based on the certified offer price from the equipment supplier. The consideration of other underlying parameters this year, including that of Roll Out plans, is on firmer basis because of availability of more certain data/information. The Authority, therefore, considers that it is no more necessary to have a range for the monthly rentals.

20. The Authority has considered whether to specify either a ceiling or floor for these rentals. It was noted that the costs per line for WLL (M) have decreased substantially in the last one year. The Table in the Annex shows that the cost based rentals for the two service providers with the largest planned WLL (M) coverage in the country are below the two highest rental slabs for fixed line, viz; Rs.250/- and Rs.180/- per month.

21. The Authority has generally been following the policy that subject to a tariff package not being predatory, market competition should not be restrained. Considering what has been stated in paragraph 19 above, the Authority is of the view that here too the same policy may now be followed and alternative tariffs may be allowed in general for WLL (M), subject to the tariff package not being predatory. The uncertainty that had marked the WLL (M) rental exercise last year is now significantly lower, and the developments since last year show that there is a possibility for service providers to reduce costs further. This may give further impetus to efficiency increases and development of tariffs packages encouraging access and usage. In this background, curbing the use of alternative tariff packages (including combination of different rental and call charge regimes) would not be appropriate, as it could prove to be counter-productive to consumer interest and competition in the market.

22. The Authority has considered whether, even with alternative tariff packages, a floor to the monthly rental need be retained. The Authority recalled that last year, it had fixed such a floor based on the cost based rental estimates of the Most Efficient Private Operator (MEPO); the rental estimate of MEPO was then higher than that of the incumbent. Paragraph 34 of the Explanatory Memorandum to TTO 14th Amendment states that:

"There are two main reasons why the Authority has decided to benchmark the Most Efficient Private Operator (MEPO) for fixing the rental. One, the costs of the incumbents (BSNL/MTNL) are likely to be lower than those of the new entrants because of the fact that they have the benefit of economies of scale and market dominance over practically the entire country. Since they can place orders in bulk, they are likely to be offered discounts. Further, since they will be launching both CMTS and WLL (M) systems simultaneously, they can share a lot of infrastructure such as towers, buildings, power plant, optical fibre etc. Another reason for choosing the cost models of the private operator and particularly those of an economically efficient operator is to provide incentive to other private operators for achieving greater efficiency and cost reduction."

23. The present estimates show that MEPO's cost based monthly rental is actually below that of the predominant incumbent. Last year, MEPO's costs were used as floor also to encourage the private sector operators to improve their efficiency and reduce their costs towards MEPO. The basic thrust was to encourage efficiency and growth of the service while not giving the incumbent opportunity to use its market dominance and special advantages such as ability to use common infrastructure to prevent growth of competition. In the current changed scenario wherein the cost estimates of the emerging competitors are already below those of the dominant incumbent the latter's ability to put competitors at any serious disadvantage seems to have been fairly restrained. In this situation, the Authority has considered it desirable not to prescribe any floor and allow the efficient competitors in the market to compete effectively, especially in the context of a declining trend for costs. In the circumstance it would be eminently reasonable to specify standard tariffs, and while examining the reported tariffs intervene only, if required, to prevent the implementation of predatory tariffs.

24. Standard tariffs specified by the Authority are generally based on some average, which may be a simple average or a median. Among the estimates given in Table 1 of the Annex, since the presence of the two largest operators with lowest costs is planned to be in many more circles than the others, the median would likely be the estimate corresponding to one of these two service providers. Also, the simple average would become closer to the cost estimate of the predominant incumbent with its operations extending to most parts of the country i.e. closer to a range of Rs. 170/- to Rs. 178/- per month.

25. Furthermore, the Authority noted that the incumbent operator's cost estimates were based on actual orders, and the cost basis for its estimated monthly rentals passed the tests of acceptability much better than others as it fitted the framework adopted for normation of costs for these items Moreover, the costs are likely to decline further in the next few years. The monthly rental estimates for the operator who based it on actual orders placed could, therefore, be used as a benchmark for specifying the standard tariff rental for WLL (M), especially in view of the fact that the most efficient private sector operator's estimated costs are lower. For standard tariff rental, the Authority has considered a slightly higher figure than that applicable to the estimates based on actual orders of the dominant incumbent which would balance both the objectives of greater efficiency and the incentive for inefficient service providers to reduce costs and continue providing the service as they endeavor to improve the efficiency. With this background, the Authority has specified a monthly rental of Rs. 200/- for WLL (M) as a standard tariff component. For WLL (M), the possibility of providing alternative tariffs will be the same as that for basic services in general.

26. The Authority observed that Handset costs, on an average, works out as Rs. 6000/-. Accordingly, an operator can either ask for a Security Deposit of Rs. 6000/- or charge an additional monthly rental of Rs. 50/- for the handset, in case the same is being provided by him to the customer.

ANNEX

Table 1. Monthly Rentals for WLL (M) Based on Moderated Costs: Network Up to SDCC Tandem

Service Provider	**Average Monthly Rental**	**Monthly Rental Including License Fee and Spectrum charges**		
		10%	**12%**	**14%**
Public Sector Operator	153	170	174	178
Private Sector Operator 1	290	322	330	337
Private Sector Operator 2	250	277	284	290
Private Sector Operator 3	136	152	155	159
Lowest	**136**	**152**	**155**	**159**
Highest	**290**	**322**	**330**	**337**

Simple Average	**207**	**230**	**236**	**241**
Operator with extensive planned coverage (public sector)	**153**	**170**	**174**	**178**

By Order,

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