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CONSULTATION PAPER No. 2000/5-FN

TELECOM REGULATORY AUTHORITY OF INDIA

COMMENTS
from
STAKE HOLDERS

ON

TRAI PAPER

POLICY ISSUES RELATING TO

LIMITED MOBILITY

BY USE OF

WIRELESS IN LOCAL LOOP

TECHNIQUES IN THE ACCESS NETWORK
BY

BASIC SERVICE PROVIDERS

A. **EXTENT OF MOBILITY IN LOCAL LOOP SYSTEMS**

1. **Whether a definite limit should be specified on Mobility provided by WLL Systems deployed by BSOs?**

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| BSNL | Yes. There should be a definite limit on the Mobility provided by the WLL Systems deployed by BSOs. The Mobility should be to the extent that it does not violate the National Routing Plan, Charging Plan and Numbering Plan as applicable to the Basic Services and at the same time, it should extend full advantages of the technological advancements. |
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| <p>ABTO</p> | <p>ABTO agrees with the suggestion of the Government that, "while considering the Recommendations of the Telecom Commission, keeping in view the need of the telecom policy for free competition, the objectives of NTP 1999, the subscriber convenience and available fruits of technology, the Hand Held terminals in Wireless Access Technology with Full Mobility within the Service Area may be permitted to the Basic Service Operators".</p> <p>In view of the above, there is no need to impose artificial restriction on usage of available Services and applications for the benefit of the masses.</p> |
| <p>COAI</p> | <p>At the outset, COAI would like to state that we believe that, as per the ITU definition of "Fixed Wireless Access" and as stipulated in the Basic Service Operators' License Agreements, the FSPs should only be allowed to use WLL Systems to provide the "last mile linkage" between the Fixed Network Access point and the Fixed end-user terminal at the customers' premises. This is also in line with NTP 99, wherein WLL Fixed Wireless Access has been envisaged to enable rapid deployment of Fixed line Services. This would also be in line with International practices as detailed in the Consultation Paper and as collated by COAI. Internationally, deployment of Wireless in Local Loop (WLL) is for Fixed Access.</p> <p>In most of the Developing countries with low tele-density, WLL is commonly used to provide only Fixed Wireless Access i.e. the "last mile link" between the Fixed Network Access point and the Fixed end-user terminal at the customers' premises to facilitate speedy roll-out of the Fixed line Network and meet the License conditions. In the more Developed countries with high tele-density, WLL is being introduced as a new Service to provide speedy Fixed Broadband Access without Mobility to its subscribers. Therefore this situation is not comparable to the present scenario in India where WLL is being proposed to be allowed to Fixed line Operators to offer Mobile Services.</p> <p>If the FSPs are permitted to enter into "Limited Mobility" Services, it would be extremely difficult to limit or control the degree/ extent of Mobility. WLL Systems generally use a micro Cellular architecture. In India however, most FSPs have opted to use macro Cellular Systems using CDMA technology, which can potentially provide complete Mobile Services. If the FSPs are allowed to deploy this infrastructure for so called "Limited Mobility", then due to the technology deployed, there will be no difference between the Cellular Services being offered by the CMSPs and that of the FSPs. In this context, it must also be pointed out that the current frequency Spectrum that has been allocated to FSPs, effectively gives them a WLL range of 15 to 25 kms. Consequently, it would be impossible for the honourable Regulator to restrict the FSPs to a range lower than that, which is already allowed by their allotted frequencies.</p> <p>As a result of the above, once Mobility is allowed in any form or</p> |

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| | | to any extent, the "Limited Mobility" Operator will be able to provide Full Mobility within the Service area and will be in direct competition with the CMSPs. Accordingly, we reiterate WLL should continue to be deployed in India only for Fixed Access in the Local Loop to enable faster rollout and increased tele-density in order to meet the objectives of the NTP 99, particularly with regard to providing Access in rural / remote / inaccessible areas. |
| TUGI | | India's Telecommunication monopolization and introduction and promotion of competition are aimed at creation of inexpensive & geographical Universal availability of telecom. This is enshrined in the objectives of NTP'99 and therefore use of Wireless in Local Loop contemplate faster Services it both urban and rural sector. Additionally consumer is benefited, as the tariff remains @ Rs 1.20 for 3 minutes call. At the same time the consumer gets the advantage of using Hand Held sets/ terminals in Wireless Access technology with Full Mobility with in the Service area of Basic Service Provider. TUGI Feels that telecom users convenience is paramount and fruits of technology upgradation should reach the rural/urban areas at affordable price. |
| MOTOROLA | | Limited or Full Mobility can be easily provided based on the existing Spectrum that there is no shortage of the Spectrum for provision Mobility by the WLL Operators. |
| IDFC | | No, such a limit should not be specified, considering that the Government itself has stated that Full Mobility be allowed, and that such Mobility would ensure that competition and deregulation of the Cellular sector keeps pace with trends in National Long Distance, International Long Distance and the Basic Service sectors. |
| CTIA | | Keeping in view the goals of the National Telecom Policy for free competition and in view of the subscriber convenience, Full Mobility .within the Licensed Service area may be permitted to the Basic Service Operators subject to the condition that in case the existing Cellular Operators they may also be allowed Revenue Share out of the Access Charges as is being done for the Basic Operators provided the Cellular Operators also offer their Service at similar affordable cost based charges. |
| SHRI SUBRAMANIAN | T.S. | The WLL subscriber will have only a Local Area number (same as a wire line subscriber) and the Mobility with a Hand Held terminal should be limited to local exchange area (SDCA or the jurisdiction of an Area Manager in large multi exchange districts). However, Wireless propagation cannot be limited to strict geographical boundaries and spillovers should be permitted. |

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| <p>SHRI P.K. ROYCHOUDHURY</p> | <p>There are 4 types of Mobile Services:</p> <ul style="list-style-type: none"> - Cellular Mobile - Satellite Mobile Services - Land Mobile Systems based on single transmitter - Partial Mobile Services based on WLL <p>For the last type of Service only a specific limit on Mobility should be placed.</p> |
| <p>SHRI SIDHARTH SINHA</p> | <p>The choice of WLL (with or without Mobility) for Access provision will depend upon the scarce Spectrum resource. Currently the choice of WLL for local Access is based largely on the speed of rollout and not necessarily on its cost advantage, inclusive of Spectrum costs in many cases. A meaningful comparison between WLL and other modes of local Access can only be made once the Spectrum is priced appropriately. The price of Spectrum will depend upon its alternate uses. There the question of use of WLL for local Access cannot be answered without answering the efficient utilization of frequency Spectrum.</p> <p>The most common approach to regulating the use of Spectrum is to divide the Spectrum into non-overlapping blocks and issue Licenses for exclusive rights to transmit in one such block in a given geographic region. There are two alternative approaches to the License terms and conditions. In the first case, for each block of Spectrum the Government can determine which application will be selected, and it can also determine the transmission standard. Under the traditional central planning approach, Governments have generally done both. An alternative is the 'flexible use' doctrine whose goal in to allow market forces to influence decisions, whenever it is possible, within a Licensed Spectrum management framework. Under the flexible use approach, License holders are free to decide what they will use their Spectrum for, provided that interference levels for adjacent frequency blocks and neighboring geographical regions do not exceed set thresholds. There may be additional terms and conditions related to the transfer of Licenses and the choice of technical standards. The main advantage of the flexible use policy is that it allows individual firms, rather than the Government, to decide how exactly to use each block of Spectrum. Spectrum is then used to provide the most valuable Services, with the most cost-effective technology. Generally, it would be difficult for Regulators to predict which Services and technology will prove to be the most valuable. With this flexibility innovation is encouraged, since firms need not wait for approval to offer a new Service. This approach also encourages Development of applications, which conserve on Spectrum utilization. The extent of flexibility may need to be circumscribed by the need to promote applications with significant economic externalities but low financial viability, for example, rural and remote area coverage.</p> |

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| SHRI ATUL AMDEKAR | This is something, which is not in line with Developments in technology. The fruits of technological Development must be shared with general public. |
| Shri Devendra Kumar Sangal | <p>TRAI paper issues can be considered from three different point of views</p> <p>From Legal Point of View</p> <p>By definition the WLL is a wireless based technology to replace the subscriber's wired access by a wireless one. When the use of WLL was permitted to BSOs (in fact it was specified as the preferred technology), it was basically in the context of a reliable Fixed Service. No mobility was anticipated. At best a limited portability of subscribers' instrument was expected. In this context the recommendation of Telecom Commission that WLL platform should follow the ' Local Area Numbering Scheme' appears logical. It also follows that mandate for use of WLL technology mandate to BSO's permits its use only for Fixed Service with Limited Mobility restricted at best to the Local Area of the exchange concerned.</p> <p>From BSO Point of View</p> <p>The BSOs would like to take advantage of the techno-economic Developments since 1995, which have made the use of WLL technology highly attractive not only for Fixed Service but as an effective competitor for Cellular Mobile Service. In fact some of the technologies and products used for WLL are identical to those used for Cellular Mobile Service. The BSO's thus see an opportunity to enter the Mobile Service with marginal additional investment,.</p> <p>From CMTSOs Point of View</p> <p>CMTOs are naturally apprehensive of these Developments and fear that BSOs will cut into their market share adversely affecting their growth and revenues. If they have their way, they would like the use of WLL by BSOs to be restricted for Fixed Service permitting at best subscriber apparatus portability to the subscriber's premises.</p> <p>From Consumers Point of View</p> <p>Any existing and potential subscribers would no doubt like to be able to take his personal telephone anywhere with him, provided it can be done economically. The extent of this requirement would vary. Some subscribers may be satisfied with mobility within their premises, some may want it in immediate neighbourhood and still others over a much wider area such as within a city, a state or nationwide. From subscriber's point of view, it would be nice if facility for such varied mobility is available at a reasonable cost. Once the facility is available, individual subscriber will subscribe to the extent of mobility according to his needs and the economics of the same.</p> |

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| | <p>From Authors' Point of View</p> <p>This author is of the view that ultimately the point of view of the citizens of India must prevail over the mere legalities created by the Government and individual licensees and the points of view of the different Service Providers. Thus if full mobility can be made feasible economically, it should be provided. In the light of what has been stated above, it will ultimately be appropriate to permit full flexibility for BSOs to provide Mobility upto different areas as per the needs of the subscribers and the CMTSOs to provide Fixed Service. It may however take some time to sort out various issues involved in implementing such a decision. An exercise must be started towards this end immediately. Till this is completed, 'Limited Mobility' be permitted to BSOs upto the local exchange area. No restriction should be placed in regard to the use of technology and frequency on the plea of promoting indigenous technologies etc. Full flexibility should be permitted so that eventually the service area wide Mobility can be provided.</p> |
| OH_Chennai - Shri Srikrishnan, Advocate. | Mobility would provide better Telecom Service and would be in consumer interest. Fruits of advancement of technique should reach maximum people at the lowest rates. Mobility should cover entire state. |
| OH_Chennai - Shri Ravichandaran (RPG) | Mobility at affordable cost should be provided. |
| OH_Chennai - Ms. Shoba Iyer, Consumer Group | Technology application as wide as possible be allowed |
| OH_Chennai - Prof. Bhaskar Ramamurthi, ITI | There is no definition of 'Limited Mobility' and is not enforceable. In the interest of customers level playing field should be there |
| OH_Calcutta - Shri Khanna, ABTO | Shri Khanna quoted from TRAI's Recommendations on Providing Mobile Community Phones covering wider public interest, alternate options to cheaper rates, non-consistency of guaranteed returns and profits to Cellular Operators by keeping alternate services out of public reach, dynamic march of technology etc. He further indicated that better Telecom Service and calls through WLL at Basic Service prices would be in consumer interest. Fruits of advancement of technique should reach maximum people at the lowest rates. Mobility coverage for entire service Area was indicated. |
| OH_Calcutta - Shri Krishnamadi, Lawyer. | Mobility will help the prices to go down. Communication Development will lead to Development of rural remote areas and not just urban areas. |
| OH_Calcutta - Shri SHRI P.K. Sen, Academician | Mobility to BSP should be subjected to same terms & conditions as given to mobile service providers. |

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| OH_Mumbai - Shri Prakash Bajpai, Hughes | Why 1800 MHz band is being offered to the fourth operator? Spectrum was not allotted for Cellular Operators in the license. However on the issue of Mobility, attempt is being made to deny spectrum already allotted for WLL Access to Basic Operators. There is no question of disturbing any level playing field. Full mobility covering the entire Service Area should be permitted. |
| OH_Mumbai – Justice P.N. Bhagwati | Licence Agreement may have certain provisions. However permission should be given for what is in consumer interest. Though there may be a cut in the domain of cellular operator but it will be useful to the consumer. In public interest, WLL with Mobility should be allowed. |
| OH_Mumbai – Shri B.M. Khanna, ex-CMD, MTNL | Mobility should be available in the interest of common man covering the entire Service Area of Basic Service operations . Advances in technology should not be denied to common man. NTP'99 objectives of tele-density and Development in Rural and backward areas would be possible if affordable prices are there. Option provided by technology at this stage should not be wasted as it is in the interest of common man and masses. |
| OH_Mumbai - Shri Rajeev Aggarwal, AT&T | Mobile application for Basic Service Licence holders only after bidding should be allowed. |
| OH_Mumbai – Shri Gautam Mitra, Lawyer, Supreme Court | WLL System with Mobility which is in the best interest of the people and should be allowed. Benefit to a common man should be paramount to decision about the technique for the Telecom consumers especially those in rural areas. Mobility should be available for full Service Area. |
| OH_Mumbai – Shri – Karunakaran, (BPL) | Based on consideration of NTP-99, Licence Agreements of Cellular Operators and Basic Service Operators, Limited Mobility through WLL should not be allowed as it cannot be monitored and controlled. |
| OH_Mumbai – Shri Anurag Aggarwal, ICCI | Calls at Rs. 1.20/ 3 minutes would be useful for consumer but full Service Area Mobility at this rate possibly would not be feasible. |
| OH_Chennai, Calcutta, Mumbai and Delhi :Many other Participants | Advantages of new technique like WLL Mobility should not be denied as common man's interest are always supreme. Cellular Operators do not need further concessions |
| OH_Delhi - Shri Ashok Singh, MLA | Cellular Operators have not fulfilled their commitments. They are charging higher than TRAI approved tariffs like arbitrary price of Rs. 99 for CLI which is actually provided by Basic Service switches. Why we talk about Level playing field only for Cellular Operations. When Mobility is possible at Rs. 1.20 per 3 minute through WLL in Delhi, it should be allowed immediately. |

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| OH_Delhi - Shri Hari Shankar Gupta | There are many common difficulties at present and there is a need to Develop a parallel competitive system which can look after the facilities for common man at prices affordable to all sections of the society. |
| OH_Delhi - Shri Vishwani Prasad, Supreme Advocate | WLL Mobility should be allowed for Basic Service Operators to avoid monopolistic tendencies. It will help in the Development of free market. |
| OH_Delhi - Shri Gupta, R.K. Puram Welfare Association | At present there is a monopoly of Cellular Operators and they are not concerned about common man. Everyone should get a chance. Government agencies are worried about the interest of monopoly organization and is supporting them. Middle and lower middle class will have the benefit if full mobility is allowed to BSOs. This would lead to a big revolution in Telecom Sector. WLL technology should be allowed to give full mobility to the masses at affordable prices. |
| OH_Delhi - Shri Abhishek Sanghvi, Supreme Advocate | There should be no limit to the mobility provided by WLL system deployed by BSOs. NTP-99 envisages maximum competition. Licence have been provided on non-exclusive basis and more players can come. WLL Access is already allowed in Licence and Mobility is already there by default. No change of service conditions are required for WLL mobility. TRAI should allow Full Mobility with WLL. Only some changes in the type of terminal equipment which is cheaper and will result in lower costs with better QOS and technological advances will be available with masses. Hand held terminals are permitted as per National standards and any decision to the contrary will be in violation of Government policy. Average consumer should be benefited. |
| OH_Delhi - Shri S.C. Khanna, ABTO | WLL Mobility is a God given gift by technology and masses can take benefit of it. Mobility across the entire Service Area of Basic Service Operators should be allowed to be provided and Basic Service tariffs would be applicable. Access through WLL is also permitted in Basic Service Licenses and TEC Specifications also permit Mobility. Reasoning given by TRAI in its recent Recommendations on Mobile Community Phones apply to the present case also where alternate technology options through Basic Service at cheaper rates are feasible as compared to very high prices through Cellular Networks. |
| OH_Delhi - Prof. Abhishek Singh, Delhi University | Once technology permits Mobility at lower costs, no restrictions should be there. |
| OH_Delhi - Shri Manjul Bajpai, Telecom Lawyer. | As per license conditions Basic Service Providers cannot provide Mobile Services. |

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| OH_Delhi - Shri Ajay, Magnacord | As announced by the Govt. recently monopoly of VSNL will be getting terminated 2 years in advance in April 2002. A compensation package has also been announced. Mobility could be provided to Basic Service Operators but in case of legal problems, a solution compensating Cellular Operators could be worked out. |
| OH_Delhi - Shri Mahendra Nahata, HFCL | Cellular Operators were allowed an increase in rentals from Rs. 156 to Rs. 600 and they are already having Cost based tariffs. All the conditions are favourable to them in the last few years and Cellular licenses are being sold for hundreds of Crores whereas only Basic Services are operational only in 6 Circles and that too on limited scale. Basic Operators did not register protests when Cellular Operators were allowed Mobile Community Phones which will be at fixed locations as TRAI had given the reasons of consumer interest. Now Mobility across the Service Area is supported by technology and the same should be allowed in Basic Services. Every where competition is good for the consumers. |
| OH_Delhi - Shri Gopal Jain, Advocate | Where there is a 'WILL', there is a 'way'. When technology is available why not allow it without it any restriction |
| OH_Delhi : Shri Yogesh Shukla, Swadeshi Jagran. | Consumer's interest should be supreme. India is trying to be in the forefront in the area of IT technology. When technology permits Mobility at the Basic service tariffs then what is the dilemma in not permitting it. Written submission covering all the questions has also been made. Full transparency should be there in the decision making process. R&D activities and technological Developments should not stop. But need further encouragement. Full mobility to BSOs through WLL technology should be provided. |
| OH_Delhi Shri Satpal Gupta, Trade Union leader | TRAI's decision should be in the interest of common man, lower and middle class. Consumer should be supreme have the option of cheaper WLL Mobile Services. |
| OH_Delhi - Shri B.M. Khanna, Ex-CMD, MTNL | Two key NTP objectives relating to affordability and increase in telecom density are there in the context of allowing Mobility while deploying WLL option in the roll out of Basic Telecom Services. It is a facility that should have been exploited for the benefit of the common man from day one. Forward looking policy decisions are required. Pragmatic approach of the Govt. that Hand Held terminals in Wireless Access Technology with Full Mobility within the Service Area to BSOs to ensure competition and deregulation of the Cellular Sector keeping pace with the trends in NLD, ILD and Basic Sector of Telecommunication, needs to be accepted without delay. Dual benefit of affordable Basic Mobile Service for the common man and increase in tele-density will be there. Response from common man will be phenomenal with increased volumes and improvement in viability of Basic Services when Mobility is allowed at basic rate within service area. Nothing could be farther from the truth as Basic Mobility is decidedly a part of the Basic Service as WLL platform would follow the 'Local Area Numbering Scheme' of |

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| | Short Distance Charging Area and also the Basic Service tariffs, which are affordability based and not cost plus as in case of Cellular Service. For investments to flow in the critical sector of Basic Service, Govt's suggestion of mobility within the Service Area should be allowed for the common man across the length and breadth of the country. |
| OH_Delhi - Mrs. Bakshi | Full mobility at cheap rates is good. |
| OH_Delhi - Shri Vipran Malik, CA | When World standards at affordable prices which also satisfy social obligations, are available, the same needs to be allowed. Free flow of technology and capital is good for the country. We should also observe as to why Cellular Licences are sold at very high rates. Why no one has carried out any investigations. Till date no Cellular company is providing desirable standards. Cheap prices for the general public is a key issue in WLL Mobility decision. |
| OH_Delhi - Prof. G.P. Srivastava, Delhi University. | Let two technologies WLL CDMA and Cellular GSM compete among themselves. It will provide affordable communication. No hurdles should be put in such a competition. |
| Delhi - Shri Manu Bhai, Telecom Users group | There is no reason why WLL Mobility should not be allowed. |
| Delhi - Shri J.S. Puri. | WLL technology at reasonable price should be permitted for Basic Service Operators. |
| OH_Delhi - Shri Joginder Singh, ex DG, CBI | Decision considering consumers interests as supreme should be made. |
| OH_Delhi - Shri B.B. Bhatia, Motorola | Spectrum is a natural resource and equal in all countries. Korea and China are having 3.4 Million and 6.0 Million CDMA subscribers. Same technology and same Band Width is available there also. China has WLL Mobility also. 800 to 900 MHz band is already having frequency slots reserved for GSM and WLL and there is no reason as to why they should be disturbed. National Frequency Allocation Plan 2000 also has WLL reservation. Spectrum Management Committee is also there. For 3G separate allocation is there. 20+20 MHz could be released from Defence. |
| OH_Delhi - Shri J.P. George | WLL is an Access application. WLL mobility is supported through Handset. Basic Service Costs are higher. Cost based tariff and Roaming is already available with Cellular Operators. |
| OH_Delhi - Dr. Bhargava | Mobility should be allowed for faster roll out. |
| OH_Delhi - Shri Srinivasan, Advocate. | WLL already exists in Basic Service licenses. Full Mobility should be provided. |

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| OH_Delhi – Shri Vinay Jain, CA | TRAI should allow full mobility. |
| OH_Delhi – Shri Ramachandaran, COAI. | The atmosphere in the Open House Sessions is intimidating for the Cellular Operators. They are not allowed to speak. He requested Chairperson, TRAI to give a chance for face to face discussion in his office if they are allowed by the crowd to speak. |
| OH_Delhi – Shri Karunakaran, GSM | Full mobility must be provided through GSM Cellular Route and not through WLL Limited Mobility. WLL is only an application of technology. GSM is a cost effective technology. GSM is having 300 million subscribers world wide. CDMA has very limited applications as compared to GSM. |
| OH_Delhi – Shri Das, Spice Telecom | Cellular can also match lower prices as may be feasible through WLL Mobility through BSOs provided conditions of Revenue Sharing License Fees, Interconnection arrangements and other issues are favourable to them as in case of Basic Services. |
| OH_Delhi – Shri Jagdeesh,Hapur | TRAI should give its decision in favour of consumers. |
| OH_Delhi – Shri Naresh Gupta | Interests of consumers should be considered. |
| OH_Delhi – Shri Mahesh Uppal, Consultant | Issue needs a decision based on technical, economic and commercial parameters. |
| OH_Delhi – Shri Vikas, student Kota | Stability in Regulatory system should be there and student interest also needs to be considered. |
| OH_Delhi – Shai Udaya, Supreme Court lawyer | In future also service changes will be there. No one should have exclusive rights and place should be there for others to come. |
| OH_Delhi – Shri Prakash Bajpai | In view of unlimited competition in Basic Services, any Cellular Operator is free to enter Basic Services but reverse is not true as only one more additional Cellular license will be allowed. There should be no change in WLL allocation in the 800 to 900 MHz band as it is as per License conditions and also as per NFAP2000. |
| OH_Delhi_Written – Shri Ramachandran, COAI | Fixed Service Licences were for Fixed Services and Mobile Licences were for Mobile services. Fixed Licences had special mention about non availability of any Mobile Services for Fixed Service Providers. As such Fixed Service Providers should not be allowed to offer any Mobile Services. TRAI's FSP consultation paper of July also had a question on limited Mobility and also about change in the definition of Services. TRAI had not given any Recommendations on these issues to the Government and rightly also. When no one can enforce Limited Mobility, why should we have it ? If TRAI and Govt. allows favourable cost and revenue structures, we can also match prices. |

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| <p>OH_Delhi – Shri Sanjay Bhalla, Telecom Public Policy Forum</p> | <p>Full Mobility should be provided within the entire Service Area by WLL System to be deployed by Basic Operators. No restrictions should be imposed for use of WLL whether it is urban or rural areas.</p> |
| <p>OH_Delhi : 11 Members of Lok Sabha and Rajya Sabha through a written submission (Shri Prahlad Singh Patel, Shri Ram Naresh Tripathi, Shri Ramdas Gavit, Shri Ramakant S. Hingle, Shri Y.G. Mahajan, Shri Kailash Joshi, Shri V.K.Khandelwal, Shri D.S. Parasta, Shri J.S. Pawaiya, Shri Chandra Pratap Singh and Shri Baliram Kashap)</p> | <p>The Government and the Parliament is very keen to see growth of tele-density in the country and to see that telecom revolution reaches the masses. Our beloved Hon'ble Prime Minister has also given a vision that the telephone Service should reach to the last man of the country. Accordingly, Parliament has also approved NTP 99. In this context, the people of India including all of us are very keen for fast deployment of telecom network and accordingly, would like to recommend the following:</p> <ul style="list-style-type: none"> - Basic Service Providers be allowed full mobility within the State, as has been recommended by the Government vide Annexure C of TRAI's paper. The Wireless in Local Loop is allowed to the Basic Service Provider as stated in the TRAI paper and there is no restriction in the license on use or not to use any particular type of WLL technology. In view of this the license agreement itself provides for WLL with handset. We should not put artificial restrictions limiting Mobility in the country. Accordingly, full mobility within the service area should be allowed to the Basic Service Operators. - As per TRAI itself and as is also known, the Cellular Service is entirely different than the WLL Mobility. In any case, Cellular Service is an elite premium Service which is very costly because tariffs are fixed by TRAI on cost plus basis, where as Basic Service is the minimum need of the country which is required by one and all and tariffs are fixed on best affordability. In view of this, the market segment for Cellular and Basic WLL are different. Hence, both can co-exist in such a large country like India. Also the Basic and Cellular operators have agreed to face unlimited competition. Government does not stand for Cellular operators only. The Government stands for the public at large and the people need cheaper telephones. Mobility to be provided by Basic Service Operators in Wireless in Local Loop is going to cost public 10 % of the Cellular telephony, thereby making it affordable to the common man. In our opinion there is no reason not to allow such a Service which is benefiting to the common man. There is no question of calling Basic WLL Service as a Cellular Service. - It is also surprising that TRAI is seeking recommendation to impose additional fees, spectrum fees etc. for WLL Service. There is no question of any additional fees or license fee or revenue sharing because this will be quite cheaper for the consumer. Any more fee will not be in the consumer interest. |

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| <p>OH_Delhi – Shri T.H. Chowdary, IT Adviser, Govt of AP [through written letter]</p> | <p>Requests will come from time to time from different Service Providers under different licenses and new entrants offering deployment of new technologies and new elements in segments of existing network can offer new services which could have an impact on the business of other Service Providers, continuous un-foldment of new technologies and increased convergence between fixed and mobile, computers and communication and broadcasting, the situation becomes extremely fluid as licensed Service Providers have different terms and conditions like Entry Fees, License Fees Revenue Share, Inter-connection charges which basically determine the cost and prices. Users will like new services with reduced prices and better quality. TRAI must have consumer interest upper most in its mind and with that in view, it must see that competition and the continued viability of suppliers are ensured .e. there must be a level playing field.</p> <p>Limited mobility would be attractive to the customers but to the disadvantage of Cellular operators and they will get discriminated.</p> <p>Additional LF, EF for Limited Mobility will be detracting from the objective of increased affordability of all type of services to consumers.</p> <p>Introduction of Limited Mobility may be deferred and both Basic and Cellular Service Operators should be allowed to become Full Service Operators. Overlapping Services could commence after a time of 12 months. Distinction between Basic and Cellular will then disappear with readjustments in Entry Fees, License Fees Revenue Share, Inter-connection charges. Under convergence, each operator would become a Full Service Provider.</p> |
| <p>OH_Delhi – Shri J.P. Garg, Nokia [through written letter]</p> | <p>WLL applications with restricted Mobility could be considered for implementation in Rural Areas for fast roll out of 'Fixed' Services preferably based on Micro-cellular or similar technology.</p> <p>The frequency bands for WLL usage could be different from the current allocations for Cellular Mobile Services. It may be of interest that in the available bandwidth (say 8 MHz), users of mobility would need to be limited for the sake of spectral efficiency.</p> <p>TRAI may prescribe tariffs for a WLL telephone connection with 'home cell mobility for rural areas and also prescribe the definition for 'rural' areas, such as SDCAs, which are predominantly rural.</p> |

OH_Delhi – Shri T.V. Ramachandran, COAI [Written Submission]

WLL CDMA is not a cheaper technology than GSM. CMSPs fully support the implementation of cheaper technologies to increase the tele-density in the country. However, it is an established fact worldwide that the economies of scale that exists with GSM are just not available with other technologies. Even the operators that provide both basic and cellular services in India, have clearly indicated the cost benefits to that of CDMA (WLL). WLL CDMA system and the terminal equipment costs are substantially higher than the GSM prices. The only reason that FSPs would be able to provide/offer mobile services at Rs.1.40 for 3 minutes is not because of deploying a cheaper technology than GSM, but because of the fact that they intend to cross-subsidize their mobile services from their retained long distance revenues. This would be to the tune of 60% of their STD call revenues, 45% of their international call revenues and 100% of their local call revenues. Besides, FSPs also have the additional advantage of a lower entry license fee and lower annual license fee payments vis-à-vis the CMSPs.

Service Area Classification: The Service Areas defined for FSPs and CMSPs are different in some instances. For example, the FSP has one single license for Maharashtra which includes Mumbai. The CMSP license, on the other hand, is separate for Mumbai and for the rest of Maharashtra. A call carried by a FSP from Mumbai to Pune is taken on the FSPs network as an intra-circle call but for the CMSP, the same call from Mumbai-Pune has to be on a long distance basis since it involves two different service areas and therefore two different networks. Similarly, the Service Areas would be different for Calcutta/ West Bengal, Chennai/ Tamil Nadu, etc. WLL CDMA will destroy Investor Confidence. Several bankers and foreign investors in cellular projects have already expressed their serious concern on the regulatory and policy uncertainty that has emerged as a result of this proposal. The business models that have been set up by operators will go totally awry and foreign investors would stop all future investments into this vital telecom sector. Further, it is feared that any attempt to permit the backdoor entry of Fixed Service Providers into mobile services, would not only imperil the bidding process for award of the 4th Cellular licence, but would in one stroke, destroy all the good work done by NTP 99. In this context, it may be pointed out that the demand of the consumers for Internet Telephony, which would allow the consumers to avail of very cheap long distance calls, has not been permitted by the Government so as to ensure the growth and Development of a robust telecom infrastructure in the country. In this context, the Government has kept in mind the huge investments made by BSNL/ MTNL and the impact that the introduction of internet telephony would have on the business viability of the fixed service providers.

Cellular operators would like to reiterate that CMSPs be provided a more customer-friendly interconnect regime and be assured of a level playing field and fair operating conditions to enable them satisfy the consumer demand for “Affordable Mobile Services”.

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| OH_Delhi – Shri Anil Kumar, Telecom Watchdog | Why TRAI is allowing Cellular Operators for a mandatory facility of CLI at a cost of Rs.99/- per month when CLI is a switch facility and information is generally provided by BSOs. Why no direction are being given. Mobility should be permitted for BSOs |
| OH_Delhi – Shri Chenna, CII | Mobility to BSOs through WLL technology in permitted in France, Sweden and Finland. |
| OH_Delhi – Ms. Queenie [written] Sharma | Justice will be well served if BSOs are allowed mobility as an extended application of their services at much lower rates of Rs.1.20/3 and low monthly rental of Rs.80/ 200 in comparison to the cost plus tariff system of Rs.12/ 3 minute and higher monthly rental of Rs.475/ 600 as permitted to cellular operators by TRAI. The viability of BSOs should be a matter of great concern since they are bearing much higher operating cost for participating in building the nation's communication infrastructure to achieve the objectives of NTP99 and the Government of India. |
| OH_Delhi – Rainbow [Basic & Cellular Operator :Written] | As a part of the procurement process the erstwhile DOT had put some trial systems in both urban and rural areas. The subscribers were provided with Fixed wireless terminals. It was found that majority of the subscribers were moving with the terminals in spite of it being bulky as it was wireless terminal. Concurrently the response of subscribers to MTNL's limited mobility offer was phenomenal. As there was enormous cost difference between the Fixed and Handheld sets, and since this cost difference could be used for more roll out keeping the objectives of NTP 99, the Telecom Commission had sought the recommendations of TRAI on this subject. The Basic service operator rolls out on the traffic pattern of 0.1 Erlang, while mobile operator rolls out on basis of one third of this traffic pattern. If the mobile operator has to offer basic services, he has to re-engineer the network and the cost would be three times and he would further be uneconomical in offering lower tariffs to the customers. The same is the case for basic service operator as he will have to reengineer the network_for handing over the traffic etc. This would also increase the cost of roll outs. Probably while considering the limited mobility aspect the Telecom Commission's objective was to increase the tele-density with the existing roll out plans and not to fringe into each others territory . Today's system are driven by software. The SDCA wise restriction can be easily implementable. In the para (d) of the extracts from DOT's reference on WLL Mobility, the Telecom Commission has justified that "the agreement does not bar specifically the deployment of the handheld subscriber sets'. In the light of the broader objective and to keep the harmony of the whole Telecom industry, we concur with the views of the Telecom Commission, and the use of handheld terminal to be allowed in the Local Area / SDCA only. The numbering plan of the local area is to be followed and inter Base Station Controller (BSC) manager authentication is not to be permitted. |

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| ABTO [Written] | <p>It would be important to note that the country requires huge amounts investments (including foreign investment) in the entire telecom sector. Cellular industry were beneficiaries of the decision to allow cellular operators to provide mobile PCOs (at the cost of basic operators). We would also like point out that as per COAI representation, it is claimed that there has been a total investment of Rs. 13,000 crores in the operations of 47 cellular networks in the country. On the contrary, compared to this fixed basic operators have an investment outlay of Rs. 9000 crores (out of which 4500 crores has already been invested) in the 6 projects being implemented and if all the circles are to be opened up with multiple operators, the additional investment required would be anywhere between Rs. 60,000 to Rs. 70,000 crores. The tele-density target and telephony commitment of the Government cannot be met without widespread and active proliferation of basic services. It is also pertinent to point out that the cellular mobile operators a only segment of the telecom industry who continue to enjoy protection when all other sectors of telecom industry have been opened up to free competition. The fact that this sector is also slated for free competition. The fact this this sector is also slated for free competition has been announced by the Hon'ble Prime Minister in New York and in the World Economic Forum on 26th November, 2000 in New Delhi. The Government has also recommended that by providing mobility to basic services, the effective deregulation of this sector will also be achieved.</p> |
| TELECOM WATCHDOG | <p>It appears from the statements made by the Association of Basic Telecom Operators (ABTO) in the open house session that they have no objection to the idea of providing Basic Telecom Services (BTS) by the Cellular Telecom Operators (CTO). Whereas, the statements made by the Cellular Operators Association of India (COAI) indicates that they want the Basic Telecom Operators (BTO) to stand in Queue to get license for providing the Cellular Telecom Services (CTS) before the BTO start providing the Mobile services under WLL. As a consumer, we are interested in a reasonable tariff of Rs. 1.20 per three minute with no extra charge on incoming calls and Rental as Rs. 156 per month, which will result into exponential growth of tele-density. The consumers do not mind whether the service is provided by CTO or BTO. The tariff should be implemented without any artificial regulatory hurdles. " The general public, Consumers of telecom service, including Mr. Joginder Singh, Ex. Director CBI, and the Legislators present in the open house session, also demanded that the cellular services should be immediately available at affordable tariff .The TRAI also repeatedly acknowledged in the Open House session the sentiments of the public against the existing exorbitant anti-consumer tariff. Now, we are surprised with your statements appearing in the newspapers whereby it has been indicated that you intend to declare mobility services provided under the WLL, as a third service. WLL with mobility, as a third service is acceptable as long as the aforesaid demanded tariff to the consumers is not affected. But we are afraid that proposed</p> |

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| | <p>artificial regulations such as calling WLL as third service, would necessarily lead to higher tariff which very well suits the requirement of the CTO. This is contrary to what is actually desired and expressed during the open house session by the public at large. The existing problem of WLL with mobility would not have arisen at all had the TRAI reviewed the Cellular Tariff.</p> |
| <p>OH_Delhi – Sh. Prabir Purkayastha (Written)</p> | <p>Cellular services can be considered to have a premium as it provides mobility. The cost of cellular services is dropping in terms of capital cost per line. It has become economical to provide Wireless in the Local Loop (WLL) through a macro-cellular architecture. If the Basic Services operator deploys this architecture on a statewide basis, his network will become identical to that of the cellular operators and therefore he will have become a cellular operator without a cellular license. The cellular operators have therefore argued that the Basic Service Operator be restricted to either a Fixed instrument using WLL or allowing the basic service operator to become a cellular operator paying the entry price for a cellular license. The fixed instrument in the subscriber premise is identical in technological terms to a mobile cellular instrument, the differential in cost due to largely differences in duty and to much less number of such instruments produced. Therefore, the subscriber (or the Basic service Operator) is forced to an artificial limit of a fixed instrument with a higher cost. A long-term solution is treating all licenses basic or cellular as a composite license and level listing tariff for different types of services. The cellular rates have no reason to be high given that their capital costs today are lower than landline costs. Restricting the basic service subscribers handset to a fixed option penalises the optimum use of current technology. Given that there is no difference technologically between the fixed handset and the mobile one the subscriber should be allowed to use a mobile handset also. The Mobility should be restricted mobility. In this case limited mobility is not a property of the technology concerned but a regulatory restriction and should be defined as such. This will mean that any connection to any phone either cellular: limited mobility or 1and phone outShri SIdE the range of this cell will have to be through the landline network of the basic service operators. Due to differences in the size of a service area and the cellular range, this may introduce some differences in what will be a local call between two such limited mobility handsets and that between a limited mobility handset and a landline. However, these differences will not be significant. A call between a subscriber in Ambala to one in Hissar will be long distance call under both conditions with current levels of technology. As this service will certainly compete with the cellular operators, we will have to establish some form of level playing. The cellular call rates are much higher than their capital costs warrant and a higher level of competition will certainly be beneficial in driving prices down. The cellular operators 'are loath to complete with each other as both the operators in a given area benefit from high tariffs. The basic service operator may be willing to offer more competitive prices to the subscriber. This service, offering limited mobility</p> |

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| | <p>WLL, should be classified as a basic service. One criticism of this scheme could be that conversion of this network to a fully cellular one with complete mobility, etc., is only a software enabling function and therefore this restriction is artificial. It may be noted that not allowing the cellular operators to offer long distance telephony is a similar restriction. The restriction here has to be recognised as a regulatory restriction and not a technological one. This will allow networks that are part cellular and part landline based to be set up and which could be technologically and economically be more appropriate in hilly terrain. Unfortunately, by walling off cellular and land line based technologies as is being done today, aborts an option that could be optimal under certain conditions. A distinction needs to be made between rural and urban areas. In an urban area, this is a premium service and should have higher tariff than a fixed landline service. All WLL services offered through the macro-cellular architecture either fixed or mobile should attract higher tariff. In rural and remote areas, there should not be any difference in rates between fixed land line and WLL based services. This will encourage a quicker rollout of the network and perhaps lower cost for rural telephones.</p> |
| Rescon Services Private Limited | <p>The mobility provided by WLL System should not be artificially limited through regulatory restrictions and the subscribers should not be deprived of the benefits of technological innovations.</p> |

2. If so, should it be limited to coverage of the Local exchange Area, SDCA, or the jurisdiction of an Area Manager in a Metropolitan telephone System such as Delhi, Mumbai, and Calcutta?

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| BSNL | <p>It should be limited to the Local Area Telephone Exchange System, which is currently a SDCA without any handover facility from one Cell to another. WLL is basically an "Access Technology" and should be used in a manner that the National Fundamental Plans are complied with. Mobility is, however, an inherent feature of the Wireless application in providing the Access which, if denied, not only causes inconvenience to the customer but also increases the cost of the Operator, fault liability and installation time.</p> |
| ABTO | <p>We reiterate the suggestions of the Government as stated in answer 1 above. Moreover, any artificial restrictions such as are proposed within Service Area will be difficult to test, implement, verify and enforce by regulating / enforcing authorities.</p> |

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| COAI | <p>As mentioned above, because of the frequencies allotted to the FSPs and the Developments in technology, it will be very difficult for the honourable Regulator to enforce a range for "Limited Mobility" and once Mobility is allowed in any form or to any extent, the "Limited Mobility" Operator will be able to provide Full Mobility within the Service area and will be in direct competition with the CMSPs.</p> <p>COAI also fully agrees with the TRAI's statement that permitting the FSP Full Mobility within the Service area would completely obliterate the Service distinction between FSPs and CMSPs .</p> |
| IDFC | <p>We are not in favour of limiting Mobility, as has been pointed out in our response to Question 1 , above.</p> |
| CTIA | <p>As stated above it will not be in the interest of the industry or consumers to impose any such restrictions.</p> |
| SHRI SUBRAMANIAN | <p>T.S. The WLL subscriber will have only a Local Area number (same as a wire line subscriber and the Mobility with a handheld terminal should be limited to local exchange area (SDCA or the jurisdiction of an Area Manager in large multi exchange districts). However, Wireless propagation cannot be limited to strict geographical boundaries and spillovers should be permitted.</p> |
| SHRI ROYCHOUDHURY | <p>P.K. WLL is associated with a local exchange only. The maximum Mobility should be limited to the "wire centre" of an exchange or exchanges in the same building. Operators may be allowed to offer a more restricted "locked to cell" Service in case there are multiple cells in an exchange area.</p> |
| TUGI | <p>Keeping in view the target of tele-density of 15 by the year 2010 as envisage in NTP, all artificial restrictions must go. Open competition/ advancing technology will give positive edge to consumers in pricing and availability/ affordability .</p> |
| SHRI ATUL AMDEKAR | <p>WLL should be allowed to be used freely everywhere without any restrictions.</p> |
| Shri Devendra Kumar Sangal | <p>Ultimately the point of view of the citizens of India must prevail over the mere legalities created by the Government and individual licensees and the points of view of the different Service Providers. Thus if full mobility can be made feasible economically, it should be provided. In the light of what has been stated above, it will ultimately be appropriate to permit full flexibility for BSOs to provide Mobility upto different areas as per the needs of the subscribers and the CMTSOs to provide Fixed Service. It may however take some time to sort out various issues involved in implementing such a decision. An exercise must be started towards this end immediately. Till</p> |

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| | <p>this is completed, 'Limited Mobility' be permitted to BSOs upto the local exchange area. No restriction should be placed in regard to the use of technology and frequency on the plea of promoting indigenous technologies etc. Full flexibility should be permitted so that eventually the service area wide Mobility can be provided.</p> |
| <p>OH_Chennai – Shri Nagarajan, Retd. Director, Telecom</p> | <p>There should be Full Mobility covering all Areas.</p> |
| <p>OH_Chennai - Col Govindrajan</p> | <p>Full mobility instead of restricted mobility and customer oriented approach suggested.</p> |
| <p>OH_Chennai – Shri Hari Narayan, Social Worker</p> | <p>Complete mobility should be provided</p> |
| <p>OH_Calcutta – Shri Raj Aggarwal, CA</p> | <p>Complete mobility should be provided</p> |
| <p>OH_Calcutta – Shri Gautam, Lawyer</p> | <p>Full Mobility to be provided in Consumer interest.</p> |
| <p>OH_Delhi_Written Ms. Queenie Sharma</p> | <p>Circle wide Mobility with convenient hand set must be permitted to BSOs to support the viability of rapid expansion of their services in the interest of the common masses. Since Cellular operators were permitted PCOs without additional licence fees or enhanced revenue sharing rates for Cellular operators without the addition of Basic Service being added to their term of reference. Justice demands extension of similar permission being granted to BSOs for extended mobility. The Cellular operators cartel cannot be guarded and protected at the cost of the public or the BSOs. The public and the market segment which stands to benefit from extended mobility and convenient hand sets were anyway never going to be able to affordable cellular mobiles at any point of time. Also true is the fact that the market segment which requires and can afford the additional data access, roaming and other personalized services offered by the Cellular operators would obviously not opt for the WLL service. There will be very limited overlapping of market segments consisting of people who will use both services, please note not to the exclusion of cell phones. This is the small segment which the cellular operators will have to fight for by reducing margins and tariff (high time !) which is a global trend any way. It is a mystery how and why TRAI's Recommendations on provision of mobile connectivity phones services dated 20th October 2000 : Clause 3.1 and significantly clause 3.2, clause 3.5, clause 3.6 selectively favour the cellular cartel and cannot extend the same reasoning and views when it comes to an issue involving the extension of mobility to BSOs.</p> |
| <p>OH_Calcutta – Shri Banerjee, Lawyer</p> | <p>Full Mobility should be provided in line with technology advances and low costs.</p> |

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| Rescon Services Pvt. Ltd. | Though the mobility is not proposed to be artificially limited, however, the integrity and structure of the network of the Basic Service Operator should be maintained and free mobility may be permitted within the Local Call Zones for the convenience and benefit of the subscribers. |
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3. WLL's main advantage to the BSOs being faster and cheaper coverage of the last mile, particularly in areas with difficult terrain and in areas where tele-density is low, such as Rural areas, should they be permitted to use WLL freely only in Rural and Remote areas?

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| BSNL | WLL provides faster and cheaper coverage of the last mile in all types of areas. Once Mobility is limited to the SDCA without handover from one Cell to another, there is no need to further restrict its provision only to Rural and Remote areas. The benefit of the technological advancements should be extended to all sections of the society for overall Development of the economy of the country as a whole and the telecom sector in particular. |
| ABTO | <p>Any restriction on the usage of WLL, in rural / remote areas alone will negate the affordability of Basic Services. The Systems and Service will be affordable only when the usage of WLL is unrestricted both in rural as well as urban areas. Furthermore, the use of WLL Systems in high and medium-density areas have already been deployed by existing BSOs, and use of WLL Systems through out the Service area is permitted as per the License.</p> <p>ABTO strongly Feels that the benefit of technology which provides affordable Services should be extended to both rural as well as urban subscribers</p> |
| COAI | <p>COAI's position is that, as envisaged by NTP 99 and as mandated in their existing License agreements, WLL should be deployed by FSPs only to provide "last mile" linkages.</p> <p>However, we agree that this technique could be more effectively used to provide speedier roll out in rural and remote areas to enable the FSPs to meet their rural obligations. This would not only be in consonance with international practices, but would also go a long way in achieving the rural tele-density objectives laid down in NTP 99.</p> <p>In fact, it is for this very purpose that the FSPs have been permitted "last mile" WLL, and been allotted appropriate Spectrum in their existing contracts.</p> |

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| IDFC | The use of WLL technology would to an extent, provide consumers with a cost effective alternative to the present GSM Services, and should not be restricted to only rural and remote areas. |
| CTIA | As stated above it will not be in the interest of the users to impose any such restrictions |
| SHRI SUBRAMANIAN T.S. | In the congested old parts (downtown) of our cities and towns it is equally difficult to and maintain wireline cables. Hence the BSOs should be permitted to employ WLL wherever finds it attractive |
| SHRI ROYCHOUDHURY P.K. | They should be permitted to offer Limited Mobility in all exchange areas |
| TUGI | Government has ventured to apply low tariff for telecom for business located areas. Therefore the restriction will deprive rural areas the benefit of and hence defeat the objectives of NTP 99. |
| SHRI ATUL AMDEKAR | WLL should be allowed to be used freely everywhere without any restrictions. |
| Shri Devendra Kumar Sangal | No, this will severely restrict the use of WLL technology and will deny its techno-economic benefits to urban areas. |
| Rescon Services Pvt. Ltd. | It is not appropriate to presume that WLL's main advantage to BSOs is only in faster and cheaper coverage of the last mile particularly in areas with difficult terrain and in areas where tele-density is low such as rural areas. In fact, WLL Systems are equally advantageous in built up thick populated urban areas where laying of cables is neither easy nor economically viable. In such areas the underground cable network apart from causing inconvenience to the general public, is also more prone to faults and damages causing frequent disruption of telecom services. Therefore, the use of WLL systems in access technologies cannot and need not be limited to only to rural and remote areas and should be equally encouraged in thickly populated urban areas as well. |

4. To what extent, Limited Mobility would affect the market for the Cellular Mobile industry?

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| BSNL | <p>The two Services are mutually exclusive because for all practical purpose, the Limited Mobility provided by Basic Service Operators using WLL Systems will follow National Numbering Plan, Routing Plan and Charging Plan as applicable to the Basic Services whereas the Cellular System follows different Numbering and routing plan which allows Circle wide Mobility and in fact through National and international roaming, the Cellular Operators are able to provide world-wide Mobility to its customers. Thus, these two Systems address entirely different market segment and Limited Mobility using WLL System can, in no way, affect the Cellular Mobile industry.</p> |
| ABTO | <p>ABTO Feels that Hand Held sets using WLL technology will have a separate market of its own and its impact on these Cellular Service Providers will be marginal. The technology happens to be applicable in both realms Cellular Mobile as well as Basic Services. Any attempt to stop the full use of technology however will have a very serious impact on Basic Service. We strongly endorse TRAI's previously expressed opinions in the case of Recommendations for use of Mobile PCO's by CMOs as follows:</p> <p>"TRAI is of the view that a decision on this issue will have to be taken in the context of the NTP 99 and the wider public interest rather than in the light of the view point of any one section which might be affected".</p> <p>"Now, indeed if similar alternative Service is available to the people at lower rates, there is no reason why this should be stopped only to safeguard the monetary interest of a particular Service provider or a class of Service providers. In a dynamic economy, the level of revenue or profitability of any enterprise cannot be guaranteed to remain at a certain Fixed level in perpetuity".</p> <p>"To expect guaranteed returns by keeping certain alternate Services out of the reach of the public is not consistent with the norms of a liberal, open and competitive economy. The interests of public at large deserve to be given a higher priority than the interest of a limited section".</p> |
| COAI | <p>The Cellular Operators have now been offering Services for over 5 years, during which we have to a large extent, covered the immediately addressable market. Future growth in Cellular will be driven by targeting the marginal subscribers and by addressing the mass market.</p> <p>If the FSPs are permitted to offer WLL "Limited Mobility" Services, this would not only have implications on the issue of level playing field amongst all players, but also on the degree of competition that is being envisaged in Cellular Services.</p> <p>Level Playing Field Issues</p> <p>Introduction of WLL "Limited Mobility" Services by FSPs would</p> |

result in their backdoor entry into Cellular Services and that too on patently non-level playing field conditions viz. :
unequal levels of Entry Fees, lower level of Revenue Share as License Fee, differential terms of interconnect, etc., differential terms of Access charges for STD and ISD calls, different classification of Service Areas, for example, the Basic Service License for Maharashtra includes the city of Mumbai also, which will permit the Basic Service Licensee to offer inter Service area Mobile calls in case he is allowed to offer Mobility Services. This situation would also apply in the case of Tamil Nadu & and for West Bengal and Calcutta.

The lower cost structure of FSPs resulting from the above, will enable the FSPs to offer lower tariffs, which would completely erode the market for CMSPs. In this context, it would also be appropriate to recall that Fixed line tariffs are not cost based and it is the Access deficit charge paid to FSPs that permits the FSPs to offer below cost tariffs. Introduction of WLL "Limited Mobility" Services by FSPs would help them to cover cities / towns by a single cell site in Circles and thus offer an alternative to both existing subscribers as well as the marginal subscribers whom CMSPs are planning to target in the forthcoming rollout. The impact of this will not be restricted to a single city, but with some engineering, it would be possible for subscribers to use the same handset in multiple cities in the same Circle. Similarly, in a Metro area or a multi exchange area, a number of base stations can be installed by a BSO to provide Full Mobility in the entire Metro Area, which will be in direct competition with the CMSP's.

As a result of the above, the introduction of any form of Mobility Services by FSPs, would tantamount to their entry as a new/ additional Operator into Cellular Services and therefore all attendant conditions applicable to a CMSP Licensee should also apply to them.

Degree / Extent of Competition

It must also be kept in mind that the FSPs entry as a Cellular Operator would immediately increase the number of Mobile Operators from three to five in those Service areas where there is one private sector Licensee for Basic Services. The Mobile Operators will then include the two companies that have been Licensed to provide Cellular Mobile Services by the Government, MTNL/ BSNL as the case may be, who are Licensed to be the third Cellular Mobile Operator, MTNL/ BSNL as the Fixed line Operator permitted to offer Limited Mobility Services and the private sector basic Licensee. THE honourable Regulator which has at present recommended only 4 Operators into Cellular Services will have to examine and re-assess the business impact of the entry of multiple (more than four) Operators in Cellular Services. Further, since the honorable Regulator has recommended unrestricted entry into Basic Services, the possibility of more FSPs coming into Fixed line and thereby automatically, into Mobile Services will have to be

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| | <p>considered.</p> <p>Impact on Project viability and FDI inflows</p> <p>Entry of multiple Operators into Cellular Services would lead to an unwarranted fragmentation of the Mobile market. Further, if FSPs are permitted "Limited Mobility" on non-level playing field conditions, it would completely destroy the market for Cellular Operators and have a disastrous impact on the business viability of Cellular projects, thereby, in one stroke negating all the good work done by NTP 99. Any decision that lowers the attractiveness of Cellular projects, would also have serious repercussions on foreign investor interest and future FDI inflows. In this context, we would like to bring to your attention the fact that almost 50% of the total FDI inflows into telecom, have been in the Cellular sector. Further, the Foreign Direct Investment till last year in Cellular Mobile telephone Service is Rs.2087 crores as against Rs.267 crores in Basic Telephone Services According to Government figures, India has attracted a little over Rs.3,233 crore foreign direct investment in telecom till last year. However, nearly 94 per cent (Rs.3,020 crore) of this investment came in during the two consecutive years of 1997 and 1998. Next year (1999) accounted for only Rs.213 crore inflows. The slow down in FDI is a result of the uncertainty in the License regime and Regulatory regime. Any decision that lowers the attractiveness of Cellular projects, would also have serious repercussions on foreign investor interest and future FDI inflows.</p> <p>In this context, we would like to bring to your attention the fact that almost 50% of the total FDI inflows into telecom, have been in the Cellular sector. Further, the Foreign Direct Investment till last year in Cellular Mobile telephone Service is Rs.2087 crores as against Rs.267 crores in Basic Telephone Services According to Government figures, India has attracted a little over Rs.3,233 crore foreign direct investment in telecom till last year. However, nearly 94 per cent (Rs.3,020 crore) of this investment came in during the two consecutive years of 1997 and 1998. Next year (1999) accounted for only Rs.213 crore inflows. The slow down in FDI is a result of the uncertainty in the License regime and Regulatory regime.</p> |
| <p>IDFC</p> | <p>A single National License would remove the distinction between Fixed and Mobile Services. In any case, the Authority should concern itself with the fact that Full Mobility would provide consumers with a cost-effective alternative to the present GSM Cellular Services, and as such, this outweighs any potential adverse effect to the Cellular Mobile industry.</p> <p>It must also be stressed here that any lack of a level playing field arises mainly because of the high Revenue Shares proposed for Cellular Service i.e. 17%, which obviously contains an element of rent for the Government. There would be fair competition if this anomaly were removed.</p> |

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| CTIA | The provision of Mobility by Basic Service Operators would increase the competition for Cellular Operators. However, it has been agreed at the time of formulation of National Telecom Policy that it is in National interest to have full competition in the provision of telecom Services. The same was also recently reiterated by Hon'ble Prime Minister. This is in line with CTIA's view that advancements in technology should not be restricted by Regulatory actions. |
| SHRI SUBRAMANIAN T.S. | The main attraction for a Mobile subscriber is the ability to roam all over the city or the state or the country and even globally with appropriate sim cards. With WLL, the Mobility is restricted (a Local Area or a portion of large city. The attraction of WLL may be a lower tariff for the Limited Mobility. But no customer is likely to subscribe to both WLL with Limited Mobility and, CMTS with roaming facility. He will rather subscribe to CMTS and have Full Mobility and roaming. Further the CMTS Operators can reduce the gap in tariff if they are satisfied with a modest 15% IRR. Hence the WLL is unlikely to affect the market of CMTS Operators. Many who take WLL initially will soon migrate to CMTS as soon they realise the limitations of WLL. Those who retain WLL will be those who would not have subscribed to CMTS in any case. |
| SHRI ROYCHOUDHURY P.K. | It may seriously affect the Cellular market if current tariff differences continue. Since cost of Cellular Networks is not much different from WLL, there is considerable scope for convergence in tariffs. In that case the Cellular Service will continue to have an advantage. |
| TUGI | There is the criticism within India that large-scale promotion of information technology will benefit the urban elite and masses in rural sectors are ignored. Cellular Services are meant for the elite for use of Cellular technology globally thin the country. Tariff has been Fixed factoring all expenses incurred liar Operators. Basic Services are meant for masses and Tariff are Fixed based on affordability criteria. If Services are available to consumer at lower urn strongly Feel that use of handset to Basic Services need to be encourage whatever may be the consequence to Cellular Operator. |
| SHRI ATUL AMDKAR | Limited Mobility will help in increasing the base for Cellular Mobile industry, since more people will have Access to Wireless technology. It will spread awareness about benefits of Cellular technology. |
| Shri Devendra Kumar Sangal | It will certainly affect the market for Cellular Mobile Industry. However, if the Mobility is limited to an exchange area, the effect will be only marginal. In any case this author would prefer opening up of Full Mobile Service to BSOs and Basic Service to CMTSOs. |

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| OH_Chennai - Shri S. Venkatraman, Cellular Operator | Fair return to the operator should be ensured. |
| OH_Chennai - Shri Aditi, ADFC. | Cellular is considered an elite service. |
| OH_Chennai - Shri Girish, CEO BPL | Cellular Mobile operators are also bringing down the cost. Mobility to BSOs should be allowed on same terms & conditions as provided to Cellular Operators. If BSOs are allowed to come in the Mobile, then put same terms & conditions and level playing fields be allowed. |
| OH_Mumbai - Shri Tuteja, Western Railways | Market will not be affected. |
| OH_Mumbai - Shri Gautam Mitra | Licence should have provisions for all technology changes and issues like effect of cheaper services on alternate expensive services should be decided in consumer interest. |
| OH_Mumbai - Shri Vinod Kumar, MTNL | Cost of providing WLL Cellular service is much cheaper. |
| OH_Mumbai - Shri Vikram, J M Morgan Stanley | Level playing field for basic as well as mobile operator including license fee, access charges should be there. |
| OH_Delhi - Shri Vinay Bhatia, AT&T | Complete analysis covering commercial interest of both parties needs to be done |
| OH_Delhi - Shri Sanjay Bhalla - Consumer Forum | The Cellular Operators as well as Basic Operators have already accepted full competition after going to Revenue Sharing package under the NTP'99. In the present economic situation, everybody has competition. However, WLL and Cellular cater to two different market segments. Cellular Service is an elite service whereas WLL is for ordinary consumers. In any case, Cellular is always a premium service with high tariff. Hence, there is no question of affecting market. |
| OH_Delhi - Shri Mukhopadya, FASCEL | It will seriously affect Cellular Market as single cell coverage also would be adequate for many cities. |
| OH_Delhi - Prof. Srivastava | It is a technology issue and BSOs should be given full freedom. |
| OH_Delhi - Shri BM Khanna, ex-CMD, MTNL | For investments to flow in the critical sector of Basic Service, Govt's suggestion of mobility within the Service Area should be allowed for the common man across the length and breadth of the country. |

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| OH_Delhi – Shri T.V. Ramachandran, COAI [Written Submission] | WLL CDMA mobility services has serious anti competitive implications. Competition Policy issue: The grant of mobility to FSPs will in one stroke give BSNL, the dominant incumbent and a monopoly fixed service provider in most service areas, a national all-India license to provide mobile services, which would be disastrous for the CMSPs having service area wise licenses. This in fact, is a serious competition issue, which favours the incumbent and needs to be borne in mind by the Hon'ble Authority, while finalizing its recommendations to introduce WLL CDMA limited mobility. |
| OH_Delhi – Shri Das, Spice Telecom | It will seriously affect the Cellular Service Providers |
| Rescon Services Pvt. Ltd. | So long as the mobility is limited to the Local Call Zone, it does not impinge upon the jurisdiction of other service providers including cellular service providers and hence does not affect their market. |

5. Should there be a distinction between WLL terminal Portability and Full Handset Mobility?

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| BSNL | It should be left for the Basic Service Operator to decide whether he wants to provide portable terminals or Mobile handsets or a combination of the two. |
| ABTO | The end objective is to provide Access through WLL. It can be provided by Fixed Wireless Terminals (FWTs) or handsets. Handsets are cost effective as compared to FWTs and would help ensure a faster roll out and achieve tele-density targets as envisaged in NTP '99. |
| COAI | This is not relevant in view of the answers given to earlier questions. |
| IDFC | Considering that Full Mobility is being proposed, such a distinction need not be made. |
| TUGI | TUGI Feel fix terminals are expensive and can be replaced by Hand Held terminals, as this will avoid the drain on consumers pocket. |
| CTIA | As stated above it will not be in the interest of the users to impose any such restrictions. The proposed Mobile Services by Fixed Operators ill be on basic tariffs and will therefore be differentiated by the lower tariffs offered by basic Operators. |

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| SHRI SUBRAMANIAN T.S. | There should be no distinction between portable terminals and Hand Held terminals, latter is lighter and expected to be cheaper with mass production along with other hand I Devices. The WLL will have little effect on CMTS and the WLL subscriber should not be fur restricted in Limited Mobility with a heavier and costlier terminal |
| SHRI ROYCHOUDHURY P.K. | No, however the Operators may offer a portable handset with special features for mounting in vehicles |
| SHRI ATUL AMDEKAR | No distinction is required. Choice of distinction should be left to customer only. |
| SHRI DEVENDRA KUMAR SANGAL | Yes, but for purposes of Tariff only. |
| OH_Delhi – Shri Sanjay Bhalla, Telecom Policy Forum | No distinction should be made between two different type of terminals. |
| OH_Delhi – Shri N.K. Dua – ABTO | TEC's WLL Specification of July 2000 clearly permits Mobility and Hand Held terminals. As such the choice should be with the consumer. |
| Rescon Services Pvt. Ltd. | There should be no artificial difference between the two imposed through regulatory mechanism. WLL technology itself limits the full handset mobility. |

B. FREQUENCY RELATED ISSUES

6. The existing Frequency Spectrum for WLL is both in 800/ 900 MHz and 1800/ 1900 MHz bands. The former is being used by Cellular Operators or GSM Systems. They have also the option to use CDMA based Full Mobile Systems which also fall in the 800/ 900 MHz band. In view of the latest policy relating to the technology neutrality which gives the flexibility to Cellular Operators, to use either the GSM or CDMA technology, would it be preferable to reserve this band (800/ 900 MHz) for CMTS Operators and higher frequency bands such as 1800/ 1900 MHz and 3.4 to 3.8 GHz, 10.5 to 10.68 GHZ for Basic Service Operators?

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| BSNL | The frequency Spectrum already reserved by the Government for the two Services need not be disturbed. However, higher bands like 3.4 to 3.8 GHz. can also be reserved for Fixed Wireless applications. |
| ABTO | In view of the stand in previous questions, ABTO strongly recommends that the Frequency Band already earmarked and assigned for WLL System should not be disturbed at all. |

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| <p>COAI</p> | <p>Yes, COAI fully agrees that it would be advisable to clearly differentiate between the Spectrum bands allocated to WLL Operators and CMSPs as is also done in other countries.</p> <p>The 800/900 MHz bands should be reserved exclusively for CMSPs. It would be pertinent to mention that at present, a part of the extended GSM band has been allotted to the FSPs for WLL. Such fragmentation of frequencies for different Services is going to adversely affect cost, quality and expansion of Cellular Services. This fragmentation will also have serious implications for migration to 3G.</p> <p>The honourable Regulator has also proposed that the fourth Cellular Operator will be accommodated in the 1800/1900 MHz band. WRC 2000 has approved 1700-2200MHz as one of the bands of 3G. Equipments for 3G will be initially available in the 3G core band 1885-2000MHz. Hence any allotment in the 1800/1900 MHz band will delay introduction of 3G in India. The honourable Regulator may keep this in mind while allotting frequencies in the band approved for 3G for either Cellular or Basic Services as relocation will be an issue.</p> <p>It would thus be advisable that the frequency bands of 3.4 to 3.8 GHz and 10.5 to 10.68 GHz be reserved for FSPs for Fixed Wireless Access through WLL, as is the practice in many countries.</p> <p>It should also be pointed out that with the opening of Basic Services, all FSPs will have Spectrum requirements and frequency bands reserved for WLL usage will not be sufficient and then it could lead to bandwidth scarcity which could potentially become a constraint in providing open competition in Basic Services.</p> |
| <p>MOTOROLA</p> | <p>The scope of this question relates to the sharing of Spectrum by Wireless in Local Loop (WLL) and Cellular technologies around 900 MHz and 1800 MHz bands and the use of higher bands for WLL. The National Frequency Allocation Plan 2000 has following provisions in this regard:</p> <ul style="list-style-type: none"> ▪ Frequency band 824-844 MHz paired with 869-889 MHz has been earmarked for Wireless Local Loop (WLL) Services. ▪ Frequency band 890-902.5 MHz paired with 935-947.5 MHz has been earmarked for Cellular Mobile telephone Services. ▪ Additional requirements <i>up</i> to 6.2 + 6.2 MHz for Cellular Mobile telephone Service may be coordinated on case-by-case basis in the frequency band 902.5 - 915 MHz paired with 947.5 -960 MHz. These may not be contiguous and may be in smaller chunks of 0.6 MHz and may not be same in all cases, while efforts would be made to make available in larger chunks to the extent feasible. . |

- Requirement of Cellular and WLL in the frequency band 1700-2000 MHz may be coordinated on case by case basis, initially (10+ 10) MHz in the frequency band 1710-1785 MHz paired with 1805-1880 MHz. Additional (10+ 10) MHz may also be coordinated on case by case basis, subsequently in the frequency band 1710-1785 MHz paired with 1805-1880 MHz. These allocations may not be contiguous and may be in smaller chunks of 1.25 MHz and may not be same in all cases, while efforts would be made to make available in larger chunks to the extent feasible.
- Requirements of Digital Enhanced Cordless Telecommunications (DECT) based Systems will be considered in the frequency band 1880-1900 MHz on case-by-case basis.

From this it is very clear that while the allocations in 800 MHz band are clearly earmarked individually for Cellular (890-915/ 935-960) and WLL (824-844 MHz paired with 869-889) Operators. It is therefore clear that there is no conflict in the Spectrum allocation to the Cellular and WLL Operators in 800 MHz band. The current 800 MHz CDMA band can easily take at least 3 Operators with proper coordination. However, it is unlikely that the existing Cellular Operators will want to move from GSM to CDMA in their current operating areas. Even if this was required, sufficient Spectrum can be found in 800 or 1800 MHz bands to meet this need.

Under the NFAP, the 1800 MHz band is available for both CMTS and the WLL Operators. In the band 1710-1885 MHz band, 10+10 MHz immediately and another 10+ 10 MHz at a subsequent date have been coordinated by other users for Cellular and WLL applications. It is our view that immediate release of 10+10 MHz to the 4th Cellular Operator in 1710-1885 (which could be used either for GSM or CDMA technology will still leave the balance 10+10 MHz which could be provided to at least two new basic Operators. In the meantime efforts need to be made to get the balance Spectrum in the 1710-1885 MHz vacated from the current users.

Use of higher bands: The band 1880-1900 MHz is also available for WLL Operators on coordination basis but since this uses TDD type technology, it is not suitable for wide area coverage. This technology is based on cordless technology and offers only limited use for roll out of Services in towns and rural areas.

The band 3.4-3.6 GHz is not available for WLL users as it is being used by the INSAT for VSAT connectivity. Further this band is for MMDS/ LMDS type of applications and not for offering voice type of Services.

Similarly 10 GHz band is for LMDS type of applications and is not suitable for offering voice type of Services.

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| IDFC | We are not in favour of reserving the 800/ 900 MHz band for Cellular Operators, especially since BSOs are already operating in this band. Our views on this have been elaborated above. |
| CTIA | <p>The National Frequency Allocation Plan 2000 provides individual locations in 800 MHz band for Cellular (890-915/ 935-960 MHz) and WLL 824-844 MHz paired with 869-889 MHz) Operators. It is therefore clear that there is no conflict in the Spectrum allocation to the Cellular and WLL Operators in 800 MHz band. The current 800 MHz CDMA band can easily take at least 3 basic Operators with Full Mobility.</p> <p>Under the NFAP 2000, the 1800 MHz band is available for both CMTS and the WLL Operators. In the band 1710-1885 MHz band, 10+10 MHz immediately and another 10+10 MHz at a subsequent date have been coordinated by other users for Cellular and WLL applications It is our view that immediate release of 10+ 10 MHz to the 4th Cellular Operator in 1710-1885 (which could be used either for GSM or CDMA technology will still leave the balance 10+10 MHz which could be provided to at least two new basic Operators. In the meantime efforts need to be made to get the balance Spectrum.</p> <p>The band 3.4-3.6 GHz is not available for WLL users as it be being used by the by the INSAT for VSAT connectivity. Further this band is for MMDS/ LMDS type of applications and is not suitable for offering voice type of Services.</p> |
| SHRI SUBRAMANIAN T.S. | The existing frequency allocation for WLL in both the 800/ 900 MHz and 1800/1900 MHz] should continue since WLL in both the bands are in operation or planned. CDMA based CMTS is unlikely to come up and the present allocation for CMTS should remain undisturbed. With present high growth rate of CMTS Nationally (globally the Mobile subscribers are expected to over Fixed subscribers by 2005 by which time CMTS costs will come down and WLL may lose attraction) CMTS may have to be allotted frequencies in both 800/ 900 and 1800/1900 MHz bands. In fact WRC-2000 have identified a third band 2500/ 2700 MHz for the IMT –2000 Services. |
| SHRI ROYCHOUDHURY P.K. | In this entire discussion the advent of 3G Systems has been ignored. 1800/1900 MHz will be used by 3G Cellular Systems automatically . BSOs may have to use 3.4 – 3.8 GHz. This will automatically limit Mobility. |
| SHRI AMDEKAR ATUL | Yes, there should be separate bands for WLL and Mobile Systems to avoid interference. |

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| <p>Shri Devendra Kumar Sangal</p> | <p>Ultimately the point of view of the citizens of India must prevail over the mere legalities created by the Government and individual licensees and the points of view of the different Service Providers. Thus if full mobility can be made feasible economically, it should be provided. In the light of what has been stated above, it will ultimately be appropriate to permit full flexibility for BSOs to provide Mobility upto different areas as per the needs of the subscribers and the CMTSOs to provide Fixed Service. It may however take some time to sort out various issues involved in implementing such a decision. An exercise must be started towards this end immediately. Till this is completed, 'Limited Mobility' be permitted to BSOs upto the local exchange area. No restriction should be placed in regard to the use of technology and frequency on the plea of promoting indigenous technologies etc. Full flexibility should be permitted so that eventually the service area wide Mobility can be provided.</p> |
| <p>OH_Mumbai - Shri Prakash Bajpai, Hughes</p> | <p>Why 1800 MHz band is being offered to the fourth operator? Spectrum was not allotted for Cellular Operators in the license. However on the issue of Mobility, attempt is being made to deny spectrum already allotted for WLL Access to Basic Operators.</p> |
| <p>OH_Chennai – Shri Bhatia, Motorola</p> | <p>There is no shortage of spectrum. It should not be an issue in deciding the matter. Plenty of spots are available in 800 to 900 MHz & 1800 to 1900 MHz.</p> |
| <p>OH_Delhi – Shri B.B. Bhatia, Motorola</p> | <p>Spectrum is a natural resource and equal in all countries. Korea and China are having 3.4 Million and 6.0 Million CDMA subscribers. Same technology and same Band Width is available there also. China has WLL Mobility also. 800 to 900 MHz band is already having frequency slots reserved for GSM and WLL and there is no reason as to why they should be disturbed. National Frequency Allocation Plan 2000 also has WLL reservation. Spectrum Management Committee is also there. For 3G separate allocation is there. 20+20 MHz could be released from Defence.</p> <p>3.4 to 3.8 GHz is allotted for VSAT and 10.5 to 10.68 for Global LMDS. These are not WLL Bands. Multiple Basic Service Operators can be there.</p> |
| <p>OH_Delhi – Shri Prakash Bajpayee, Hughes</p> | <p>Technology neutrality does not mean additional bands be made available for Cellular licenses over and above those in License Agreements. Basic Service Operators have made investments in the frequency bands allotted and reserved for them in the NFAP and also in their License Agreements. There is no reason why WLL frequencies in 800 to 900 MHz reserved and working for WLL be made available for Cellular Networks.</p> |

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| <p>OH_Delhi – Shri Dua, ABTO</p> | <p>TRAI should see the TEC WLL Specifications, National Frequency Allocation Plan and even License conditions. There is no case for transferring frequencies of WLL to be transferred for Cellular operations.</p> |
| <p>OH_Delhi – Shri C. Karunakaran, GSM India [Written submission]</p> | <p>The following frequency bands have been stipulated for the FSPs : 864 – 868 MHz, 824 – 849 MHz paired with 869 – 889 MHz and 1800 MHz – 1900 MHz. GSM Technology frequency band is 890-915 MHz paired with 935-960 MHz. The extended GSM band is 880-890 MHz paired with 960-970 MHz. Part of the frequencies allotted for fixed services in India namely 869-889 [880-889] MHz is in the extended GSM band. Out of the total 25 MHz band, only about 19 MHz or so have been vacated so far and have been allotted to private operators as well as MTNL. There is practically no more spectrums available to meet the existing requirements of GSM operators who have got sub-optimal spectrum. If the whole GSM band including the extended GSM band was available then it would have been possible to provide additional spectrum to existing operators who will be able to expand their networks at optimum costs and contribute in meeting targets of tele-density. But now since part of the extended GSM band has been allotted to FSPs, the available spectrum for GSM 900 operators have been reduced. Piecemeal, allotment should not be done in bands approved by World Radio Conference 2000 for 3rd Generation networks. The approved bands are 806-960 MHz, 1710-2200 MHz and 2510-2570 MHz. The original core band for 3G was 1885 to 2200 MHz and equipments will be first available in this band. Further allotments in these bands for any services will delay implementation of 3G in India, which is not desirable. TRAI whose function includes efficient management of spectrum should consider these issues while recommending any additional spectrum to any service, which cannot easily migrate to 3rd Generation services. Operators in GSM 900 can migrate to 3rd Generation services and beginning has already been made by introduction of GPRS by many operators worldwide including BPL Mobile, Mumbai in India. Several CMSPs in India are actively gearing up to introduce GPRS services in preparation for introducing 3G services. Inadequacy of Bandwidth for providing mobility services using WLL Technologies. Most of the existing Basic Service Operators in India are using the CDMA technology to provide WLL and they will be using the same technology to provide mobility also if permitted. TRAI has already recommended unlimited number of Basic Service Operators in each service area. The frequency spectrum allotted for Fixed Service Operators is a total of 20 MHz in 800-900 MHz band. There is also an understanding that 8 MHz will be for private operators, 8 MHz for DOT/ MTNL and 4 MHz reserved for whoever requires it first, for providing WLL services. When mobility is introduced in CDMA systems, the capacity of the network to serve the customers reduces drastically. Hence their demand for frequency spectrum will go up. MTNL who was</p> |

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| | <p>allotted three channels per CDMA network have not approached WPC for allocation of two more channels which total to above 7.5 MHz and the plan of MTNL is to provide 50,000 customers on their limited mobility CDMA network. Metro GSM operators have only 6.2 MHz of spectrum and they are serving more than 200,000 subscribers. When subscribers are immovable or fixed, the capacity of CDMA network is greatly increased over that of a mobile CDMA network. In short, use of CDMA in WLL for limited mobility services represents a grossly inefficient use of the available limited spectrum resources. If the same is used for fixed wireless access, more subscribers can be served resulting in increase of tele-density, which is a key objective of NTP 99.</p> |
| <p>OH_Delhi - T.V. Ramachandran, COAI [Written submission]</p> | <p>WLL CDMA sub-optimally utilizes valuable spectrum resources. On the issue of spectrum, which is a scarce natural resources, it would be pertinent to mention that provision of mobility in WLL CDMA utilize/consumers a lot more spectrum per subscriber than the provision of fixed wireless access through WLL CDMA. The FSPs clearly want to use this scarce public resource in a sub-optimal manner under the preferential fixed service license terms, which is contrary to both the spirit and letter of their licenses. Further, the Hon'ble Authority may kindly note that the 800 MHz spectrum in most countries has been reserved for mobile applications and issued therefore under mobile licenses with mobile license fees, terms and conditions.</p> |
| <p>OH_Delhi - ABTO</p> | <p>WLL frequencies (in the 800 Mhz and 1800 Mhz bands) are already allotted to basic operators and are being utilized for providing wireless connectivity to the subscriber through fixed wireless terminals. All the basic operators have already made considerable investments in establishing networks based on this technology.</p> |
| <p>OH_Delhi - Shri Sanjay Telecom Forum</p> | <p>The frequency already allotted to Basic operators as per license conditions and National Frequency approved need not be altered.</p> |
| <p>Rescon Services Pvt. Ltd.</p> | <p>The Licence Agreement for BSO & CMPs Operator has already specified the frequency bands for the two services. Moreover, the Government has categorically committed (as indicated at the end of this consultation paper) that the frequencies in GSM band (890-915 MHz paired with 935-965 MHz and 1710-1785 paired with 1805-1880 MHz) will not be allocated under any circumstances to the BSOs in order to avoid any conflict of interest with present cellular operators. (It has also allocated frequencies in the 800-900 MHz band to the BSOs for their WLL systems.) With this background there is no need to again raise the issue of reserving the entire band of (800/900 MHz) for CMTS operators.</p> |

7. Should we specify the frequency spot within 1800/ 1900 MHz band reserved for DECT Systems for Basic Service Operators as a means of promoting indigenous technology? This will, however limit Mobility to the neighborhood.

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| BSNL | The Spectrum is a National resource and should be used optimally. It should not be wasted by reserving it for any particular technology. |
| ABTO | <p>The National Frequency Allocation Plan 2000 (NFAP 2000) was issued by the Government of India after detailed discussions with the various telecom Service providers including Cellular Mobile Service Providers as a follow up of NTP 99. NFAP 2000 has clearly earmarked the Frequency Spectrum band to be used for various telecom Services. Details of these frequency bands are available on page 122 to 125. A copy of the same is enclosed for your ready reference.</p> <p>ABTO strongly recommends that Spectrum assigned to Basic Service Operators and Cellular Operators should be as per provisions contained in NFAP 2000.</p> |
| COAI | <p>No, this is not desirable due to reasons mentioned under Point 6. As already mentioned in our answer above, the 1800/1900 MHz band has been proposed by TRAI to accommodate the fourth Cellular Operator. Requirements of 3G has to be kept in mind.</p> <p>However, in the interim, the frequency spots already allotted to DECT in this band, could be used by FSPs to provide Fixed Wireless Access.</p> |
| MOTOROLA | The actual frequency spots <i>for</i> -DECT based System are already specified in the NF AP under the National remark Number IND-41 as 1880-1900 MHz. As indicated above, this System uses TDD type technology and is not suitable for wide area coverage. This technology is based on cordless technology and offers only limited use <i>for</i> rollout of Services in towns and rural areas. |
| IDFC | We are not in favour of reserving bands for Operators. Rather, users of DECT Systems may bid for the 1800/1900 MHz bands, when such bands are auctioned. |
| CTIA | The actual frequency spots for DECT based System are already specified in the NFAP under the National remark Number IND-41 as 1880-1900 MHz. This System uses TDD type technology and is not suitable for wide area coverage. This technology is based on cordless use for rollout of Services in towns and offers and rural areas. |

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| SHRI SUBRAMANIAN T.S. | The frequency allocation for WLL should also be technology neutral. Apart from DECT other technologies are in operation or planned for WLL. The Operators should be able to choose technology attractive for him subject to Quality of Service regulations and subject to hand terminals using WLL platform which means that Numbering Plan of Local Area is to be followed and inter base station controller/ manager authentication is not permitted |
| SHRI ROUCHOUDHURY P.K. | No objection |
| SHRI AMDEKAR ATUL | No restrictions of such nature will hinder the growth of Telecommunications in our country adversely. |
| Shri Devendra Kumar Sangal | Ultimately the point of view of the citizens of India must prevail over the mere legalities created by the Government and individual licensees and the points of view of the different Service Providers. Thus if full mobility can be made feasible economically, it should be provided. In the light of what has been stated above, it will ultimately be appropriate to permit full flexibility for BSOs to provide Mobility upto different areas as per the needs of the subscribers and the CMTSOs to provide Fixed Service. It may however take some time to sort out various issues involved in implementing such a decision. An exercise must be started towards this end immediately. Till this is completed, 'Limited Mobility' be permitted to BSOs upto the local exchange area. No restriction should be placed in regard to the use of technology and frequency on the plea of promoting indigenous technologies etc. Full flexibility should be permitted so that eventually the service area wide Mobility can be provided. |
| OH_Delhi – Shri B.M. Khanna, ex-CMD, MTNL | Frequency Spots are already reserved in 1800 to 1900 MHz band. Technology neutral approach should be there. |
| OH_Delhi – Shri Sanjay Telecom Forum Bhalla, Policy | Equal treatment should be given to Cellular and Basic and hence use of DECT system should be allowed to both the Operators in addition to any other technology or system or WLL they are using. |
| Rescon Services Pvt. Ltd. | Frequency Spectrum is a rare national resource and hence the need for its optimum utilisation. Spectrum efficient technologies and system need to be encouraged to be used by the Telecom Service Operators. To reserve a frequency spectrum for a particular system will result in slow pace of technological advantages that can be provided in the limited radio spectrum. Technology is changing at a very fast pace and by reserving a frequency spectrum for any particular technology will result in wastage of spectrum and deny the advantages which can be derived from technological developments and innovations. |

8. What should be the basis for assigning WLL frequency, amount of Entry Fee and Spectrum charges as a percentage of revenue to be charged from the Basic Service Operator for extending the above facility in respect of existing as well as future Basic Service Licensees, so as to secure a level playing field with the Cellular Operators?

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| BSNL | WLL is already an assigned technology for Basic Services. There is no question of any additional Entry Fee for providing Access using WLL Systems. In fact BSNL is already using WLL Systems for providing telephones in villages on MARR. So is the case with all the Six Licensed Private Basic Operators who are using WLL Systems as a preferred Access technology for providing telephone connections. |
| ABTO | WLL frequencies have already been earmarked and assigned to BSOs and the Spectrum charges are on the same basis as those for Cellular Mobile Operators. The proposed Services are being provided from existing Networks under BSOs current Licenses for which Entry Fee have already been paid. There is thus no justification for additional Entry Fee or Spectrum charges. |
| COAI | <p>We would like to re-state that any form of Mobility offered by the FSPs would make them the new / additional Cellular Operator which would have implications for both level playing field and the degree of competition in Cellular Services.</p> <p>If the existing or new FSPs are allowed to use the WLL deployment to offer any form of Mobility Services, they become de facto the new Mobile Operator and will have to comply with all the terms and conditions applicable to CMSPs in a non-discriminatory manner so as to ensure level playing field conditions with regard to License terms & conditions, levels of Entry Fee, levels of Revenue Share, terms of interconnect and Access charges, QOS obligations etc.</p> <p>FSPs entry as a Cellular Operator would immediately increase the number of Mobile Operators from three to five in those Service areas where there is one private sector Licensee for Basic Services. TRAI which has at present recommended only 4 Operators into Cellular Services will have to examine and re-assess the business impact of the entry of multiple Operators in Cellular Services as the possibility of more FSPs coming into Fixed line and thereby into Mobile Services will have to be considered.</p> |

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| MOTORALA | <p>The current Spectrum pricing methodology followed by WPC Operators, is based on the age old use of Spectrum for links between two points and is not very efficient for the present day usage of the Spectrum for wide area coverage by GSM or CDMA technologies. Further there is an urgent need for a rationalized uniform per MHz charge, as the preferred method pricing.</p> <p>Spectrum charging formula therefore needs to be revised as per Circle basis since the operating Licenses are Circle based and not city based. In addition, to ensure efficient utilization of the Spectrum and to discourage hoarding, it is strongly recommended that all users including govt. departments, both commercial and non commercial must pay for the Spectrum at same rates just as they pay for other Services such as telephones and electricity.</p> <p>Public telecom Operators need more Spectrum in order to reduce the Network capital expenditure. Network planning by Operators in India is not considered to be optimal, as a minimum larger bandwidth of Spectrum as in other countries. The capital expenditure depends on the minimum Spectrum and the trend to go for chunks of 5 or 10 MHz. Smaller chunks as given s the fragmentation as well as the capital expenditure. The attempt to avoid increased wasteful capital expenditure by the Operators for inevitably calls for more bandwidth as allocation of smaller chunks of the Spectrum is not an optimum solution for the nation.</p> <p>GSM and CDMA Operators have been using various techniques to optimize and reduce their Spectrum need. On the other hand, there is no motivation for the Govt. users who do not pay any thing for the Spectrum, to be Spectrum efficient. Equal charge on the use of Spectrum by all Govt. departments will ensure that they do not hoard the Spectrum but would use it in an efficient manner. Accordingly we Feel that a uniform small charge must be levied on all users of the Spectrum. Every user should pay on-discriminatory basis.</p> |
| IDFC | <p>WLL frequency, like any other Spectrum frequency, should be assigned through a process of auctions, as has been elaborated above. As far as entry is concerned, we are in favour of a single License for all types of Services. As mentioned before, Services could be ranked, whereby those who qualify to provide Services of a certain rank can provide Services at lower ranks. This would ensure that high pre-qualification criteria do not act as a barrier to entry to those wishing to provide only certain types of Service. Until such a License is evolved, removing the element of rent in Cellular License Fees would help creating a level playing field.</p> |

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| CTIA | The current Spectrum pricing methodology followed by WPC methodology followed by WPC for private Operators is not very efficient for the present day usage of the GSM or CDMA technologies. Further there is an urgent need for rationalized uniform per MHz charge, as the preferred method of Spectrum pricing. Spectrum charging formula therefore needs to be revised as per Circle basis since the operating Circle based and not city based .In addition, to ensure efficient utilization of the Spectrum and to discourage, hoarding, it is strongly recommended that all user including govt. departments, both must pay for the Spectrum at same rates just as they pay for other Services such as telephones and electricity. |
| SHRI SUBRAMANIAN | T.S. WLL is only a Wireless technology to provide subscriber loop, cheaper and faster in difficult terrain and in congested areas. In the present Basic Service Licenses, all issued before NTP-1999, it was mandatory to use WLL for subscriber loops. At the time of issuance of Licenses, there was no additional Entry Fee or additional charges for use of WLL. These have arisen along with the revenue sharing package of NTP-1999. The other concern is the Limited Mobility with Hand Held terminals which are cheaper than Fixed terminals and its impact on CMTS. As explained in paras 2, 3.6 and 3.9 the question of level playing ground does not arise. CMTS is a telecommunication Service while WLL is only a subscriber loop technology. The hand terminal and Limited Mobility is incidental and does not affect the CMTS. The additional entry and additional revenue sharing for Spectrum utilization should be minimal. say 0.5% of the FSP Entry Fee and 0.5% of revenue sharing. In frequency assignment priority should be given to rural subscribers and low paying urban subscribers to increase the viability of Service provision. |
| SHRI ROUCHOUDHURY | P.K. No additional percentage of revenue need be charged. An Entry Fee greater of zero and 50% of the difference of Entry Fees between Cellular and Fixed Licenses may be charged. Frequencies are a limited National resource and only the minimum band required to open Service should be at Fixed rates. Additional bands should be auctioned. |
| TUGI | NTP 99 envisage full deregulation and allowing open competition in Cellular sector, which will generate granted results in favour of consumers. However in Basic Service the Spectrum is already allotted to each Operator and which will be use in handsets. Intention of NTP 99 are very clear the brilliant picture of India's Information Technology enterprises blazing new trails our world scene against the of pain fun past and positively open competition should prevail with market forces playing in the costing field. TUGI are confident that pricing will go in favour of consumers to a very large extent. |
| SHRI ATUL AMDEKAR | The charges for assigning WLL frequency should be same as for CMTS Operator at present. Additional Entry Fee for operating Limited Mobility need not be charged as this Service will be part of Service OR a Service feature provided by BSO. |

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| Shri Devendra Kumar Sangal | Even now, there is an Entry Fee and Spectrum Charges for use of WLL for Basic Service. This author is not aware if this differs from that charged to CMTSOs. They will have to be brought on par once Full Mobility is permitted to BSO's. |
| OH_Mumbai + Delhi - Shri B.M. Khanna | No additional fee should be charged. Existing WLL Spectrum as per License and National Frequency Allocation Plan is there and no higher tariffs are being proposed for WLL. At present Spectrum spots are being allotted based on requirement and are city based allocations. The present practice is not correct. Spectrum Allocation should cover the entire Service Area. |
| OH_Mumbai - Shri Prakash Bajpayee, Hughes | BSO have already paid high Licence fee and Entry Fee. Payments for WLL frequencies is also being made. If there is no additional spectrum allocation/ allotment, then no additional charges can be applicable. |
| OH_Delhi - Shri T.V. Ramachandran, COAI | BSO will be new Operators of Cellular Mobile Services in the event of Mobility being permitted for them. |
| OH_Delhi - Shri Khanna, ABTO | Everything has been in the favour of Cellular Operators. Basic Service Operators are presently surviving on oxygen. For higher tele-density and coverage in Rural areas, new Licences should be attractive. No justification is there for higher charges for frequency. Rather there is a strong case for it to be reduced further for Basic Service Operators. |
| OH_Delhi - Shri Sanjay Bhalla, Telecom Policy Forum | Because the WLL will be an economic solution to the country and is already covered in the existing license, no additional fees under whatever name should be charged. |
| OH_Delhi - Shri T.H. Choudhary, IT Adviser, AP Govt. [Written submission] | Additional LF, EF for Limited Mobility will be detracting from the objective of increased affordability of all type of services to consumers. |
| OH_Delhi_Written 11 Members of Lok Sabha and Rajya Sabha through a written submission (Shri Prahlad Singh Patel, Shri Ram Naresh Tripathi, Shri Ramdas Gavit, Shri Ramakant S. Hingle, Shri Y.G. Mahajan, Shri Kailash Joshi, Shri V.K. Khandelwal, Shri D.S. Parasta, Shri J.S. | The Government and the Parliament is very keen to see growth of tele-density in the country and to see that telecom revolution reaches the masses. Our beloved Hon'ble Prime Minister has also given a vision that the telephone Service should reach to the last man of the country. Accordingly, Parliament has also approved NTP 99. In this context, the people of India including all of us are very keen for fast deployment of telecom network. It is surprising that TRAI is seeking recommendation to impose additional fees, spectrum fees etc. for WLL Service. There is no question of any additional fees or license fee or revenue sharing because this will be quite cheaper for the consumer. Any more fee will not be in the consumer interest. |

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| Pawaiya, Shri Chandra Pratap Singh and Shri Baliram Kashap | |
| Rescon Services Pvt. Ltd. | <p>WLL frequency may be assigned on first come first served basis as per the requirement of the BSO. The BSO gets the licence for providing Basic Services by paying an entry fee. He can provide the service by using any access technology – wire or wireless and hence there is no ground for imposing any entry fee on this account. This entry fee will put on additional burden on the BSOs whose projects are otherwise also not so attractive. The Basic Service has to be provided at an affordable price. Therefore, the burden of Spectrum charges from the BSOs would be minimal. However, in case the frequency spectrum for WLL is used for providing telephone service in rural / inaccessible / hilly / remote / backward areas, there should be no spectrum charges charged from the BSO since the tariff fixed for basic Services for such areas is already much below the actual cost of providing the service. This however, is not applicable to the cellular operators who are allowed to charge cost based tariffs from the subscribers in all the areas including hilly / remote and rural areas. The nominal / minimal spectrum charges from the BSOs will, thus not affect the level playing field with the cellular operators.</p> |

C. ISSUES RELATING TO LEVEL PLAYING FIELD AND CONVERGENCE OF FIXED AND MOBILE SERVICES

9. **Is there a case for allowing the Cellular Operators to offer Fixed Services, in case Full Circle wise WLL Mobility facility is given to Basic Service Operators as proposed by BSNL, in the interest of level playing field?**

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| BSNL | <p>There is no case for allowing Cellular Operators to offer Fixed Services. In case these are allowed, they should comply with National Numbering Plan, Routing Plan and Charging Plan. However, it is an established fact that Circle-wise Mobility using WLL System does not enable the Basic Service Operators to compete with the Cellular Operators due to the inherent technological limitations of the WLL Systems but Cellular Operators will get an added advantage of entry into the market of Fixed Service Providers. The Fixed Service Providers, therefore, will loose to Cellular Operators in both the Service segments i.e. Cellular as well as basic.</p> |
| ABTO | <p>The Cellular and Fixed are two different Services catering to different markets. Therefore, ABTO Feels there is no case for allowing Cellular Operators Basic Services Licenses as WLL handsets is only an alternate Customer Premises Equipment (CPE) and is in no way comparable to Cellular Mobile Services provided by Cellular Mobile Operators.</p> |

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| COAI | <p>At the outset, COAI would like to clearly state that we are against the entry of FSPs into any form of Mobility Services on their existing License terms & conditions.</p> <p>Without prejudice to this view, we would however like to state that if FSPs are given full Circle wise WLL Mobility, they de facto become the new / additional Cellular Operator in that Circle and would have to comply with all aspects of level playing field vis-à-vis the existing CMSPs – Entry Fee, Revenue Share, terms of interconnection, Spectrum charges, QOS, Network roll out obligations, etc.</p> <p>In this context, we would also like to mention that at present, the honourable Regulator has recommended the entry of a fourth Operator into Mobile Services. Allowing the FSPs as a Mobile Operator would immediately increase the number of Operators to five in those Service areas where there is a private sector Licensee for Basic Services. The honourable Regulator will have to re-examine and assess the market dynamics as regards the business impact of entry of the multiple (more than four) Operators into Cellular Services, before any final decision can be taken in this regard. The possibility of more FSPs coming into Fixed line and thereby into Mobile Services, leading to further fragmentation of the market, must also be considered.</p> <p>Further, the proposition contemplated above would tantamount to allowing convergent/ composite Licenses. Although this situation is envisaged in a converged scenario, at present there are many issues that prevent this from becoming a reality in the immediate future viz.:different License terms & conditions for FSPs & CMSPs, different Service area classification, different levels of Entry Fee, different levels of Revenue Share, differential terms of interconnect, QOS obligations, etc.</p> <p>The first step towards a convergent economy and thereby omnibus or composite Licenses, would be to remove these distortions.</p> |
| IDFC | Yes, as a precursor to a single License, Cellular Operators may be allowed to provide Fixed Service. |
| CTIA | Yes CTIA fully supports allowing the Cellular Operators to offer Wireless based Fixed Services in the interest of level playing field provided Cellular Operators also offer these Services at the same tariffs as are being done by the basic Operators. |
| SHRI SUBRAMANIAN | <p>T.S. With the Telecom Commission stipulations on Hand Held terminals and the Mobility restricted to a SOCA or an Area manager's jurisdiction in large cities migration from to a Circle wide CMTS is very unlikely. As discussed in para 2, WLL will use non-GSM technology while it is preferable to employ GSM for Circle wide CMTS. Since free competition permitted for both Fixed and Mobile Services it would be better to take a new License for either the Services. The question of level playing ground for any Service provider does not arise anti competitive practices are evident.</p> |

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| SHRI P.K. ROUCHOUDHURY | As long as they offer Fixed and Mobile Services from the same equipment and plant, there should be no restriction on the type of Services. Mr. Ramanujam CGM Calcutta has made a strong case for offering both types of Services from the same Network without a adversely affecting frequency usage. |
| SHRI ATUL AMDEKAR | Yes, it will be in trend with NLDO, ISP etc. |
| Shri Devendra Kumar Sangal | <p>This author had been against separating the Cellular Mobile Service from Basic Service from the beginning. In 1994 itself, he had commented that it was wrong to term Cellular Mobile Service as a 'Value Added Service' and separate it from Basic Service. It has all the characteristics of the Basic Service but in addition using the Wireless techniques it provides Mobility. He also felt that an integrated Network of Fixed and Cellular Mobile Service will be more economical and will offer a choice to the subscribers. He was therefore of the view that the incumbent Service Providers should be permitted to provide Mobile Service ab-initio as part of the Basic Service. If competition was to be introduced in Basic Service, it should cover both.</p> <p>This author is therefore of the view that BSOs should be allowed to provide various levels of Mobility including Full Mobility within their Service Area. This should be an up-front decision and not under the guise of WLL etc.</p> <p>By the same token, the CMTSOs should be allowed to provide the Fixed Service.</p> <p>In either case, no restriction should be imposed on the technologies used so long as full compatibility is ensured. Each operator should be able to make his own techno-economic decisions.</p> |
| OH_Calcutta – Shri Khanna, ABTO | Cellular services operators have cost plus basis tariff structure and BSOs have below cost tariffs. Cellular Operators are already having too much 'Level Playing' for many years. In any case Cellular Operators have freedom to opt for Basic Service Licenses whereas reverse is not true as only one more license is likely against open conditions in Basic Services. |
| OH_Delhi – Shri Sanjay Bhalla, Telecom Policy Forum | Any body can enter Basic Service, because it has been opened up for unlimited competition. Hence Basic Service Operators should also be allowed to enter Cellular Services. |
| OH_Calcutta – Consumers | If tariff difference is there between CMTP and BSO, then CMTP should not be allowed to enter in the basic fixed service. Some asked Why did we differentiate between BSO and CMO in the beginning while giving licence. |

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| <p>OH_Delhi - Shri T.H. Choudhary, Adviser, AP Govt [{written submission}]</p> | <p>Introduction of Limited Mobility may be deferred and both Basic and Cellular Service Operators should be allowed to become Full Service Operators. Overlapping Services could commence after a time of 12 months. Distinction between Basic and Cellular will then disappear with readjustments in Entry Fees, License Fees Revenue Share, Inter-connection charges. Under convergence, each operator would become a Full Service Provider.</p> |
| <p>BPL Innovision Business Group</p> | <p>If such regulatory decisions are viewed in isolation, it would be disastrous as in the case of Circle Paging fiasco where investments to the tune of crores made in the rural and small towns were made unviable and redundant by ignoring circle paging in the implementation of NTP 99 regime and promoting cellular services at the cost of paging. Similarly, if now FSPs are being promoted at the cost of CMSPs, the same situation will arise and circle cellular investments will be made redundant on account of the narrow outlook. FSPs have made very little investment compared to the cellular sector and comprise of a number of companies whose reputation and track record for commitment to the sector is suspect. In the background of the technology sector slowing down worldwide, it is imperative that no wrong signal is sent that would cause investors concern on the regulatory instability of the Indian Telecom Sector. The important issue of financing of the Telecom Sector is not being appreciated by the Honourable Authority. The tariffs of mobile services have been declining and are much below the TRAI fixed tariffs. Introduction of the third and fourth operators during 2001 will enhance competition and drive down tariffs to even more affordable levels. This decision of providing limited mobility through WLL will adversely impact investors and the financial institutions who have invested into this sector. When TRAI sought the opinion of a Committee of experts, it is rather surprising that the financial institutions and domestic investors were not adequately represented in the committee. Some FSPs have been making irresponsible promises of mobile services on fixed service rates, but it has to be considered that these companies have made very little progress in meeting their present licence and roll out. TRAI has to very carefully build on the success of the NTP 99 and any move indicating regulatory instability and inconsistency will vitiate the progress made thus far under the NTP 99. It is also relevant to point out that a regulatory uncertainty on CPP regime in China recently brought down the valuations of mobile companies by nearly 40%. Subsequent corrections and decision to postpone CPP by the regulator did not result in the improvement of the market. It is a clear example of the sensitivity of investors / market to wrong signals from Government or Regulator. If in spite of all the submissions that have been made by Cellular Operators and the investors, limited mobility is being allowed to FSPs, then a level playing field in all respects for the cellular operators vis-a-vis FSPs have to be provided which should essentially include the following:</p> <ul style="list-style-type: none"> - Provision of Inter-circle connectivity to CMSPs to |

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| | <p>compensate for revenue losses.</p> <ul style="list-style-type: none"> - Provision of Fixed telephones by CMSPs using their existing infrastructure. - Identical levels of entry fee and licence fee for revenue share. - Equitable and non-discriminatory terms of interconnection. - Proper classification of service areas. |
| Rescon Services Pvt. Ltd. | <p>The cellular and fixed services are two different services catering to different market segments and also follow different tariff regimes. Since WLL mobility has been proposed in LCZ and not full circle wise WLL mobility, the question of allowing the cellular operators to offer fixed services does not arise. The basic characteristic of fixed services of LCZ must be retained. Therefore, it is felt that full circle wise WLL mobility facility to be given to the BSOs. Hence no case for cellular operators to be allowed to provide fixed services in the present network structure and tariff regime allowed to the cellular operators.</p> |

10. Since the scope of Limited Mobility is proposed to be extended to the whole Circle Area, which is co-terminus with that of State boundaries, will it be appropriate to classify such a Service as Wireless in Local Loop, as Local Loop generally extends to 8/ 10 Kms? Will it be more appropriate to call it a Full Cellular Mobile Service being offered by the Basic Service Operators?

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| BSNL | <p>The Mobility when extended to the whole Circle is definitely not a "Local Loop Service". Therefore, such an approach is not recommended. In this regard, our comments in Para 9 also may kindly be referred.</p> |
| ABTO | <p>Regardless of coverage area and Access technology (fibre, copper, Wireless) BSOs shall continue to provide affordable Basic Telecom Service to masses. Therefore, there is no comparison of the above with fully Cellular Mobile Services. The objective of the two types of Services is quite different and are enshrined in the tariff structure. Any artificial restriction of Wireless technologies will only increase the cost and therefore, availability to masses, contrary to NTP 1999.</p> |
| COAI | <p>COAI fully agrees that it would be more appropriate to call it a fully Cellular Mobile Service. It would tantamount to the entry of a new / additional Operator into Cellular Services, the honourable Regulator must apply to it, all duties and obligations of the existing CMSPs as regards terms of entry, level of Revenue Share, interconnect, quality of Service, roll out of Networks, etc. The honourable Regulator would also have to Recommend the need and timing of entry of the new Operator in the market.</p> |

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| TUGI | Cellular Operators can match the tariff structure of Basic Services together with assured obligations and quality standards, TUGI feels that this assist the consumer the freedom of choice at affordable cost and hence may be considered. It is also requested both Services if Cellular Operators are allowed to undertake Basic Service, the Basic Service provider may be allowed to have the privilege of adopting Cellular Service. |
| IDFC | Yes, it probably would be more appropriate to call this Service Fully Cellular Mobile Service being offered by Basic Service Operators, as it would not strictly qualify as a Local Loop Service. |
| CTIA | We are of the view that the Mobile Services offered by basic Operators will be at low affordable cost based Services. Therefore, this Service would be a Mobile Service for the masses. |
| SHRI SUBRAMANIAN | T.S. As in para 9 |
| SHRI ROUCHOUDHURY | P.K. First we obtain money by differentiating the Services. Then we obtain more money by recombining them. Is this design or accident. The logical thing to do is to confess that our policy is not working and to offer "Greenfield" Licenses for specific territories, absorbing License Fees already charged. |
| SHRI AMDEKAR | ATUL Local Loop of 8/10 Kms was due to technology limitations. We can call it a feature of Mobility provided by BSO. |
| Shri Kumar Sangal | Devendra This author had been against separating the Cellular Mobile Service from Basic Service from the beginning. In 1994 itself, he had commented that it was wrong to term Cellular Mobile Service as a 'Value Added Service' and separate it from Basic Service. It has all the characteristics of the Basic Service but in addition using the Wireless techniques it provides Mobility. He also felt that an integrated Network of Fixed and Cellular Mobile Service will be more economical and will offer a choice to the subscribers. He was therefore of the view that the incumbent Service Providers should be permitted to provide Mobile Service ab-initio as part of the Basic Service. If competition was to be introduced in Basic Service, it should cover both. This author is therefore of the view that BSOs should be allowed to provide various levels of Mobility including Full Mobility within their Service Area. This should be an up-front decision and not under the guise of WLL etc. By the same token, the CMTSOs should be allowed to provide the Fixed Service. In either case, no restriction should be imposed on the technologies used so long as full compatibility is ensured. Each operator should be able to make his own techno-economic decisions. |

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| OH_Calcutta, Mumbai and Chennai – Some Consumers | Names suggested included Limited Mobile Services, Advanced Basic Service and Basic Mobile Service. |
| OH_Delhi – Sanjay Bhalla, Telecom Policy Forum | The Cellular Service and WLL services are two different Services with two different tariffs. Hence, both should be called as they are non-existing. |
| OH_Delhi – Shri T.V. Ramachandran, COAI [Written submission] | WLL CDMA is a new service. WLL is not a new technology but merely the application of the technology to offer a new service. The license awarded to FSPs is only to provide fixed services and the mobile license awarded to CMSPs is only for providing mobile services. There is no overlapping permitted between the two services. Neither the speed nor spread of services can change the nature of “mobility”. These licenses are application based and therefore have been issued by application, not by any specified technology. A mobile licensee is entitled to use any technology for provision of mobile services and similarly an FSP licensee can use any technology only for provision of fixed services. In the guise of seeking “limited mobility”, FSPs are actually seeking a backdoor entry into mobile telephony because these will eventually function/ (will have the ability to function) as full-fledged mobile networks. COAI whole-heartedly agrees that there should be more mobile licenses and firmly believe that if the FSPs want to provide any form of mobile services, they should do so by applying for the 4 th mobile license that has been currently recommended by the Hon’ble Authority. |
| OH_Delhi_Written11 Members of Lok Sabha and Rajya Sabha through a written submission (Shri Prahlad Singh Patel, Shri Ram Naresh Tripathi, Shri Ramdas Gavit, Shri Ramakant S. Hingle, Shri Y.G. Mahajan, Shri Kailash Joshi, Shri V.K. Khandelwal, Shri D.S. Parasta, Shri J.S. Pawaiya, Shri Chandra Pratap Singh and Shri Baliram Kashap | As per TRAI itself and as is also known, the Cellular Service is entirely different than the WLL Mobility. In any case, Cellular Service is an elite premium Service which is very costly because tariffs are fixed by TRAI on cost plus basis, whereas Basic Service is the minimum need of the country which is required by one and all and tariffs are fixed on best affordability. In view of this, the market segment for Cellular and Basic WLL are different. Hence, both can co-exist in such a large country like India. Also the Basic and Cellular operators have agreed to face unlimited competition. Government does not stand for Cellular operators only. The Government stands for the public at large and the people need cheaper telephones. Mobility to be provided by Basic Service Operators in Wireless in Local Loop is going to cost public 10 % of the Cellular telephony, thereby making it affordable to the common man. In our opinion there is no reason not to allow such a Service which is benefiting to the common man. There is no question of calling Basic WLL Service as a Cellular Service. |

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| Rescon Services Pvt. Ltd. | The conflict will arise only if the recommendation of the Government is for full circle wise mobility is permitted with Local Area numbering scheme. However, we are proposing the mobility with the LCZ. And hence this conflict is not there at all and at the same time the subscriber is given the full benefit of technological advancements without impinging upon the rights of other service providers. |
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11. Telecom Commission has recommended that the Wireless Local Loop platform should follow the 'Local Area Numbering Scheme', of Short Distance Charging Area. In case Govt's Recommendation is accepted, there will be a conflict with the Recommendation of Telecom Commission to allocate the Number Plan of a Local Area. Could the Govt's Recommendation of Full Circle wide Mobility be implemented along with the Recommendation of Telecom Commission to allot a Local Number to the WLL phone?

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| BSNL | Telecom Commission by its constitution has all the powers of the Central Government. How the Governments Recommendation can be different from that of the Telecom Commission? The issue flagged, therefore, is not clear. |
| ABTO | ABTO Feels that there appears to be no conflict due to the Numbering Plan. However, if any issues arise, ABTO Feels these could be resolved. |
| COAI | COAI agrees that the Government's Recommendation of full Circle Mobility would conflict with the Telecom Commission's Recommendation to follow a "Local Area Numbering Scheme" for WLL applications. Any new Cellular Operator offering Mobile Services will have to follow the same Cellular Numbering Plan that is being used by CMSPs. |
| IDFC | If this is technologically possible, it should be carried out. |
| CTIA | The present Numbering System as is being followed for basic and Cellular Operators can fully support the proposed Full Mobility within the Licensed Service Area and is similar to what is being followed in many countries such as USA . |
| SHRI SUBRAMANIAN T.S. | As in para 9 |
| SHRI ROUCHOUDHURY P.K. | We should reject the Governments suggestion unless they are prepared to follow the "Greenfield License" route. In such a case Plan A of the TRAI Number Plan proposals could be followed. I am however in favour of Plan B. |
| SHRI AMDEKAR ATUL | Yes, it is possible. |

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| Shri Devendra Kumar Sangal | If the service area wide Mobility is permitted, the decision in regard to Numbering must be left to the Service Providers. They may adopt different Numbering strategies according to the extent of Mobility needed by different classes of subscribers and technical solutions available and their economics. |
| OH_Delhi – Shri Sanjay Bhalla, Telecom Policy Forum | The Numbering Scheme will not be a problem for implementation of full Mobility. |
| OH_Delhi – Shri B.M. Khanna, ex-CMD, MTNL | Nothing could be farther from the truth as Basic Mobility is decidedly a part of the Basic Service as WLL platform would follow the 'Local Area Numbering Scheme' of Short Distance Charging Area and also the Basic Service tariffs, which are affordability based and not cost plus as in case of Cellular Service. |
| OH_Calcutta – Shri Khanna, ABTO | Numbering Plan solution is available consistent with Full Circle wide Mobility. |
| Rescon Services Pvt. Ltd. | |

12. Since the Basic Service Operators will be entitled for Universal Service Fund based on the location of the telephones provided in Rural/ Remote Areas, how will the eligibility of a phone with WLL based Circle wide Mobility, for USO be determined?

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| BSNL | We are not in favour of Circle-wide Mobility. Telephones provided in rural and remote areas using WLL Systems may be treated like low calling urban subscribers for tariffs as well as compensation through Universal Service Fund. However, the issue can be addressed more specifically once the policy framework is made clear. |
| ABTO | ABTO Feels continuous availability of phone Service in the USO entitled area will only qualify for Universal Service Funds. |
| COAI | The honorable Regulator is separately determining eligibility to USO funding. However WLL based Circle wide Mobility can in no way be considered eligible for across-the-board USO funding, as USO funding is intended to be used for providing connectivity / Access in rural / remote or other financially unviable business areas. |

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| IDFC | We are of the opinion that the Universal Service Fund would be best utilised through a process of minimum subShri SIDy auctions. Such a process would assign a value to the cost of Services to be provided in a certain area. Further, Operators should be free to provide connectivity using the technology of their choice, which may include WLL. A phone with WLL based Circle wide Mobility may be considered eligible for USO if the connection for that phone originated in an area specified for such subShri SIDy |
| CTIA | The Cellular Operators are likely to be allowed to offer PCOs in rural as well as urban areas. The provision of Mobile Services by basic Operators will further increase the telephones provided in the rural/ remote areas of the country. We are of the view that any Operator whether basic or Cellular, providing telecom Services in rural/ remote areas should be eligible to draw from the USA fund. |
| SHRI SUBRAMANIAN T.S. | Universal Service fund is meant for VPTs, rural subscribers and low paying subscribers and not for CMTS subscribers. In the unlikely event of WLL expanding to Circle Mobile Service it should be put on the same footing as CMTS. |
| SHRI ROUCHOUDHURY P.K. | I think that a Mobile WLL phone has added value and is not eligible for USO funding. A Fixed WLL phone may be eligible in the same way as a wired connection. |
| SHRI AMDEKAR ATUL | All rules applicable at present needs to apply, since the BSO has to provide coverage in rural areas, thus incurring heavy cost. |
| Shri Kumar Sangal Devendra | The reimbursement from USO fund would not only be based on the location of the telephones provided in rural/ remote areas, it will also take into account the investment and operating costs in providing the Service. If a location falls within the operating range of WLL/ Cellular Service, there be savings in additional investment and operating costs and to that extent reimbursement from USO fund could be reduced. |
| OH_Delhi Sanjay Telecom Forum - Shri Bhalla, Policy | So long as the Basic Service operators implement network in the rural areas and provide village telephones as per village telephony package, it should be allowed the benefits under the USO. |
| OH_Calcutta Consumers - | Investments done for below cost subscribers in Urban, Rural areas should qualify for USO. BSO's WLL Network will be provided in the Rural/ Remote area and traffic will also originate. Investment done should qualify for USO. |
| Rescon Services Pvt. Ltd. | As per our understanding of LCZ mobility, this problem will not be there at all. The BSOs service in rural / remote areas can be easily identified for the purpose of USO. |

13. What should be the basis for fixing the additional amount of Revenue Sharing with the BSO? Should it be a top up over the Revenue Sharing recommended already for their

License?

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| BSNL | There is no question of any additional Revenue Sharing with the BSO for using WLL System as an Access technology and providing Limited Mobility within the Local Area of the telephone exchange System. |
| ABTO | Usage of WLL and the associated Spectrum is already an integral part of the License terms and Entry Fee and Revenue Share for BSOs. Hence there is no case for fixing additional Revenue Share. |
| COAI | <p>As stated above, if WLL Systems are used to provide full Circle Mobility, then, as the new / additional Cellular Operator, the FSPs will have to pay the same Entry Fee and Revenue Share (and also comply with other CMSP terms and conditions) as the existing CMSPs.</p> <p>If WLL Systems are used only to provide the “last mile linkage” as is the current provision as per existing License contracts, no additional Fee is necessary.</p> |
| IDFC | This additional Revenue Share is for the purpose of Spectrum utilisation, as specified in the New Telecom Policy 1999. We are of the opinion that Spectrum charges should be based on the amount of Spectrum utilised, which should be determined through a process of auctions. Spectrum charges should thus be distinct from License Fees in the form of Revenue Share. The latter should be just sufficient to cover administrative and Regulatory expenses. |
| CTIA | The share of revenue from Mobile s Service Operators should be same as what is charged from Cellular Operators subject to the condition that any Operators should be limited only to the revenue arising out of such Mobile Services. However, we are of the firm belief that the present Revenue Share being charged from Cellular Operators is excessive by global standards and needs to be reduced in line with what is being charged in most countries. In our view the Revenue Share from any Wireless based Service should not be more than 5%. The growth Wireless Services is a key factor in increase of tele-density and growth of GDP. For example, studies by the Radio Communication Agency (RCA) of UK (RCA is the Spectrum Regulator in UK) have shown that radio Services are not only continuing to make significant contributions to the GDP of UK but that its contribution is growing at a faster rate than the UK economy as a whole. The findings showed that in 95/96, Wireless Services contributed Pounds 13 billion to the UK GDP to facilitate accelerated economic Development, India therefore needs to aggressively increase tele-density through Wireless communication Services. Hence it is appropriate for India to accord a high priority to Wireless communication Service by lowering the taxation on such Services. |

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| SHRI SUBRAMANIAN T.S. | As in Question 8 answer |
| SHRI ROYCHOUDHURY P.K. | No revision is necessary. Fees for Mobility may be drawn through Entry and Spectrum Fee. |
| TUGI | In case the handset are provided at the same tariff by Basic Service there seems to no justification for increasing Revenue Share particularly in view of fall in prices of GSM Network. |
| SHRI ATUL AMDEKAR | No additional amount of revenue sharing is required since the BSO has to invest heavily in installation and operation of a new infrastructure. |
| Shri Devendra Kumar Sangal | This author is not fully aware of the Final Revenue Shares fixed for the BSOs and CMTSOs. It would stand to reason that if there be a difference between the two in the same Service Area, for ensuring a level playing field, there should be a top up in respect of subscriptions provided with Mobility beyond the Local exchange Area. |
| OH_Calcutta, Mumbai and Chennai - General Opinion | No extra charges for BSO as tariff for WLL should be same as Basic Rate. |
| OH_Delhi - Shri Sanjay Bhalla, Telecom Policy Forum | Because the WLL will be an economic solution to the country and is already covered in the existing license, no additional fees under whatever name should be charged. |
| OH_Delhi_written 11 Members of Lok Sabha and Rajya Sabha through a written submission (Shri Prahlad Singh Patel, Shri Ram Naresh Tripathi, Shri Ramdas Gavit, Shri Ramakant S. Hingle, Shri Y.G. Mahajan, Shri Kailash Joshi, Shri V.K. Khandelwal, Shri D.S. Parasta, Shri J.S. Pawaiya, Shri Chandra Pratap Singh and Shri Baliram Kashap | The Government and the Parliament is very keen to see growth of tele-density in the country and to see that telecom revolution reaches the masses. Our beloved Hon'ble Prime Minister has also given a vision that the telephone Service should reach to the last man of the country. Accordingly, Parliament has also approved NTP 99. In this context, the people of India including all of us are very keen for fast deployment of telecom network. It is surprising that TRAI is seeking recommendation to impose additional fees, spectrum fees etc. for WLL Service. There is no question of any additional fees or license fee or revenue sharing because this will be quite cheaper for the consumer. Any more fee will not be in the consumer interest. |

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| OH_Delhi - ABTO (written) | <p>The Basic Service operators have requested only for the change in customer premises equipment from fixed wireless terminals to hand held terminals. This change, in no way, constitutes a separate service and the same is not comparable to the mobile services being provided by cellular operators on grounds of its technological limitations. Also, since the mobility to basic service operators is proposed on the applicable TRAI TARIFF there is no change in revenue earning potential of this service as compared to fixed land line services. Hence, there is no case for additional revenue sharing or entry fee, as would be required in case it is treated as a separate service.</p> |
| OH_Delhi - Shri T.H. Choudhary, IT Adviser, AP Govt. [Written submission] | <p>Additional LF, EF for Limited Mobility will be detracting from the objective of increased affordability of all type of services to consumers.</p> |
| Rescon Services Pvt. Ltd. | <p>The provision of WLL service by the BSO to the subscribers does not bring additional revenue to the operator because he is not charging any differential tariff for WLL from the subscriber. This service only gives additional facility to the subscriber in the form of mobility and reliability of the service without any extra payment to the operator. Therefore, there is no justification for additional amount of revenue sharing from the BSO</p> |

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