

CHAPTER VI COMPREHENSIVE PERFORMANCE REVIEWS

Planning, procurement and utilisation of Wireless-in-Local Loop (WLL) system in MTNL

Highlights

- **MTNL failed to formulate a detailed plan and monitoring mechanism before launching the WLL system, thereby suffering financial losses due to repeated procurement of obsolete/deficient technologies, capacity constraints and operational deficiencies.**

(Paragraph 6.5)

- **Procurement of old technology and suppliers' failure to rectify the frequency interface problems led to unjustified expenditure of Rs 88.96 crore.**

(Paragraph 6.6.1)

- **Delay in finalisation of the tender and placement of purchase orders led to avoidable expenditure of Rs 11.47 crore.**

(Paragraph 6.6.2)

- **Faulty and damaged handsets valuing Rs 16.49 crore were lying in stores of MTNL. Chances of their utilisation were remote due to obsolescence.**

(Paragraph 6.7.2.)

- **Fixed wireless and mobile handsets procured for Rs 52.80 crore in Delhi and Mumbai were lying idle in spite of a large number of pending cases.**

(Paragraph 6.7.3)

- **Defective payment terms in the purchase order led to infructuous expenditure of Rs 10.95 crore, as the 10,000 lines system had to be prematurely decommissioned mainly due to inherent defects, which the supplier did not rectify.**

(Paragraph 6.8.1)

- **MTNL failed to monitor the survey and design of the WLL system. Resultantly, coverage problems persisted in both Delhi and Mumbai, which adversely affected the subscribers' satisfaction and quality of service.**

(Paragraph 6.8.2)

- **Management failed to recover Rs 13.94 crore from defaulting subscribers and also failed to take remedial measures.**

(Paragraph 6.10.2)

- **MTNL suffered loss of potential revenue of Rs 15.75 crore due to short-equipped system**

(Paragraph 6.10.3)

- **WLL Cordect system procured at a total cost of Rs 52.32 crore remained grossly underutilised.**

(Paragraph 6.12)

6.1 Introduction

Low reliability of cable network has led to emergence of the Wireless-in-Local Loop system

Traditionally telephone subscribers are connected with local telephone exchange by a pair of cables known as 'loop'. The reliability of cable network is not of a high order due to man-made faults, vagaries of nature and constraints in their provision in technically non-feasible areas, besides requirement of long lead time for installation. An alternative has emerged under the name of Wireless-in-Local Loop (WLL) Code Division Multiple Access (CDMA). WLL is designed to substitute the underground copper cable in the external plant network, as it utilises radio/wireless link from exchange to the subscriber instead of conventional copper cable.

The typical WLL system consists of a Base Station Controller (BSC) or Mobile Switching Centre (MSC) connected to the main Telephone Exchange or Public Switched Telecom Network (PSTN) and Base Stations, Network Management System (NMS) and Remote Stations. The Remote Stations are the subscribers' terminals (Telephones), which communicate within the Base Station area. In case of fixed WLL system, the subscribers' terminals are fixed and in case of mobile system, the subscribers' terminals are mobile. Depending upon the technology and engineering, the coverage area in case of mobile WLL system varies from 100 meter to several kilometers. WLL CDMA is marketed under brand name "Garuda" by MTNL. MTNL has introduced two types of CDMA technology¹.

¹ CDMA IS-95-A and CDMA 1 X. CDMA 1X is the latest technology and provides congestion-free network, high speed data handling capacity and supports value added service like voice mail service, internet connectivity, etc.

6.2 Organisational setup

The respective Executive Directors (EDs) head both the Delhi and Mumbai CDMA units of MTNL. In MTNL Mumbai, the ED is assisted by General Manager (WLL) supported by Deputy General Managers dealing with WLL operations. ED, MTNL Delhi unit is assisted by concerned General Managers dealing with Administration and Operation, Commercial and Billing operations. Till November 2003, officers were not specifically designated in the case of Delhi for WLL operations at the managerial level, unlike in the case of Mumbai.

6.3 Scope of Review

The review covers aspects relating to planning, procurement, utilisation and operational performance of WLL CDMA system in MTNL along with billing and collection of revenue. The review was conducted during the period 2003-04 covering a period of seven years since the commencement of WLL operations in 1997 by MTNL.

6.4 Growth of WLL

MTNL commenced its WLL operations in 1997. However, private operators, who entered the WLL market much later viz. in the year 2002, achieved tremendous growth in their subscribers' base in comparison to MTNL. The status of growth in subscribers' base of MTNL vis-à-vis that of private operators in Delhi and Mumbai as on 31 March 2004 was as under: -

Name of the operator	Month & year of commencement of operation	Total number of subscribers at the end of March 2004
A	B	C
Delhi		
MTNL	May 1997	78015
Tata Teleservices Ltd.	December 2002	241421
Reliance Infocomm Ltd.	May 2003	877378
Mumbai		
MTNL	January 2002	64269
Tata Teleservices Ltd.	August 2003	195756
Reliance Infocomm Ltd.	May 2003	716295

MTNL could not attain a substantial subscriber base compared to private operators, who came to the WLL market much later

The above table reveals that private operators made rapid expansion in their subscribers' base since introduction of their services. As on 31 March 2004, M/s Reliance Infocomm Limited, in less than one year, had 8.77 lakh and 7.16 lakh WLL subscribers' base in Delhi and Mumbai, respectively. M/s Tata Teleservices Limited also, within a period of about one year, had 2.41 lakh WLL connections in Delhi and 1.96 lakh connections in Mumbai. But MTNL, being a pioneer in the field of WLL CDMA since 1997, could attain a subscriber base of only 0.78 lakh and 0.64 lakh in Delhi and Mumbai, respectively.

6.5 Planning

MTNL commenced field trials of a 1,000 lines WLL system in Delhi in May 1996

MTNL Delhi, in May 1996, as pioneer commenced field trials of 1,000 lines WLL system with CDMA technology in Delhi. MTNL was to gain technical experience, introduce personal communication services, evaluate suitability of the technology in Indian conditions, finalise the generic requirement (technical parameters) and observe the feasibility of the provision of telephones particularly in technically non-feasible (TNF) areas¹.

For assessment and achievement of these objectives of field trials and the fact that the WLL system was a new telecom project for MTNL which was to be executed on turnkey contract basis, it was necessary for MTNL to formulate a detailed Plan and also devise a monitoring and review mechanism.

Before launching the WLL system, MTNL failed to formulate any detailed plan and monitoring mechanism

However, MTNL before launching the WLL system did not formulate detailed plan and monitoring mechanism either for setting up of the system or for its operational performance. Consequently, it not only suffered financial losses due to repeated procurement of obsolete/deficient technologies, capacity constraints, operational deficiencies and non-realisation of revenue but also could not sustain the rate of subscribers' growth compared to private operators, quality and credibility of its service owing to poor coverage and system deficiencies as discussed in succeeding paragraphs.

MTNL went in for further expansion without stabilising the deficient existing system

The Management in their reply (November 2004) stated that after installation of 1,000 lines small network and loading upto 70 *per cent*, the same was expanded by 9,000 lines. However, due to deficiencies only 25 *per cent* payment was made to the vendor for 1,000 lines system and 50 *per cent* against 9,000 lines system. This shows that MTNL, without stabilising the system, went ahead with further expansion over the years and consequently, most of the systems did not meet the technical specifications.

The Management further stated that MTNL planned WLL services for limited mobility, while the other operators entered the WLL service market very late during 2002-03 keeping mobile service in their mind and not limited mobility. Therefore, these operators introduced advanced features like SMS, VMS, multiple registrations and roaming, etc., which were meant for mobile service and which, as per regulatory norms, were not allowed for limited mobility. This resulted in a higher subscriber growth for private operators. Hence, the growth rate of MTNL limited mobility service should not be compared to the other operators' fully mobile service. This was purely a change in regulatory environment for MTNL, which was beyond the imagination and control of MTNL.

MTNL failed to adapt itself to the rapid changes in telecom business

MTNL had the option of switching to mobile service under the unified access service licensing regime like any other private operator. However, the Management's reply indicates that MTNL failed to adapt itself to the rapid

¹ TNF areas - where cables could not be laid.

changes in telecom business from limited mobility to mobile services and therefore, failed to reap the benefit of being a pioneer WLL service provider. There was also no reason for MTNL to have opted for an inferior technology for Mumbai in December 2002 when they had already opted for an advanced technology in Delhi in July 2002 and thereby adversely affecting their subscribers' base. Further, working within the same technology of CDMA 1X in Delhi, the private service providers showed much faster WLL subscribers' growth.

6.6 Procurement of WLL system

MTNL procured three lakh lines WLL system for Rs 320 crore during 1997 to 2003

Since the introduction of WLL CDMA in Delhi during 1997, MTNL Delhi and Mumbai units procured three lakh lines WLL system valued at Rs 320 crore during the period 1997 to 2003 as below.

Chronology of procurement of WLL system

Sl. No.	Purchase order Date/Place	Vendor's name	Month/Year of Commissioning	Quantity	Value (Rs in crore)
1	PO Dt 8-9-1995 Delhi	M/s Qualcomm	May 1997	1000 lines	5.45
2	PO Dt 7-7-1998 Delhi	M/s ITI	October 1999	9000 lines	14.40
3	PO Dt 2-7-1999 Mumbai	M/s Fujitsu	January 2002	50000 lines	77.23
4	PO Dt 7-3- 2000 Delhi	M/s Motorola	October 2001 (34800 lines) March 2003 (15200 lines)	50000 lines	50.66
5	PO Dt 9-8-2002 Delhi	M/s Motorola	March 2003	100000 lines	84.93
6	PO Dt 13-12-2002 Mumbai	M/s Fujitsu	August 2003	92230 lines	87.04

6.6.1 Procurement of 50,000 lines and one lakh lines WLL system for Mumbai

MTNL paid Rs 1.92 crore for 174 filters which should have been provided free of cost by the supplier

➤ The Cellular Mobile operators reported frequency interference problems in Mumbai when M/s Fujitsu in Mumbai was carrying out the coverage test for commissioning of 50,000 lines WLL system during April 2001. To overcome the problem of frequency interference, MTNL procured 174 filters from M/s Fujitsu at a cost of Rs 1.92 crore. Audit noticed that the Delhi unit of MTNL did not encounter any such frequency interference problem because its supplier, M/s. Motorola, had provided additional filters. According to purchase order, any extra material required for successful installation, commissioning and operation of the complete system was required to be supplied by the supplier free of cost. But MTNL failed to insist on the supplier to provide the filters free of cost in terms of the purchase order. Thus, MTNL incurred an unjustified excess expenditure of Rs 1.92 crore.

On this being pointed out, the Management replied (November 2004) that MTNL at the time of installation at one of the Base Transceiver Station (BTS) sites observed that the radiation of this site was leading to interference with other GSM

operators. Hence, MTNL had no option but to procure the interference suppression filters.

The reply is not tenable as M/s Fujitsu had conducted field survey during the pre-bid phase when Global System for mobile communication (GSM) operations was in existence. Yet it failed to assess the requirement of filters at that time. Further, the General Manager, Material Management, in August 2001, had asked the supplier to provide filters without any extra cost to MTNL. Hence, procurement of filters at additional cost was not in order.

MTNL procured old technology for Mumbai ignoring the availability of latest technology

➤ Audit scrutiny also revealed that there was a proposal (April 2002) from the Mumbai unit of MTNL for expansion and migration of existing 50,000 lines capacity to the latest CDMA 2000 1X technology having advanced features. However, ignoring the fact that the latest technology had already been introduced in Delhi, MTNL took a decision (December 2002) for expansion of the existing system by one-lakh lines in Mumbai with old technology at a cost of Rs 87.04 crore. Resultantly, MTNL, on the one hand, lost the opportunity to provide competitive services on par with other operators and, on the other hand, incurred imprudent expenditure of Rs 87.04 crore owing to its failure to migrate from old technology to the latest one.

On this being pointed out, the Management stated (November 2004) that keeping in view the pressure of competition and in order to retain the subscribers, it was decided to expand the system by 92,230 lines with the existing older technology from M/s Fujitsu. Inviting fresh tender would have resulted in loss of time and consequent loss of potential subscribers.

The reply is not acceptable as CDMA 2000 1X networks were commercially launched globally in 2001 and had MTNL planned in advance, it could have easily migrated to CDMA 2000 1X during December 2002.

6.6.2 Avoidable extra expenditure of Rs 11.47 crore

MTNL delayed issue of a purchase order for 50,000 lines, which led to extra expenditure of Rs 11.47 crore on customs duty

As per MTNL's standards, the entire procurement process (i.e. issue of Notice Inviting Tender to issue of Purchase Order) should be completed within 106 days. But in the case of procurement of 50,000 lines (June 1998) for Mumbai, MTNL took more than 360 days to issue the purchase order (July 1999). Audit noticed that at the time of inviting bids (June 1998), the customs duty was at the rate of 22.22 *per cent* of CIF (cost including freight) price, but during the year 1999-2000 the infrastructure project benefit on CDMA WLL equipment was withdrawn due to which the rate of customs duty was enhanced to 53.82 *per cent*. Consequently, due to the delays in tendering process and placement of purchase orders, MTNL incurred an avoidable expenditure of Rs 11.47 crore on customs duty, besides delays in installation and commissioning of the system.

On this being pointed out, the Management replied (November 2004) that as the CDMA technology was new there were delays at every stage of finalisation of the bids. The reply is not tenable as MTNL had already conducted field trial and installed 1,000 lines CDMA system in Delhi during 1997. Further, MTNL's procurement manual provides relaxation only in the delivery period, which is enhanced to eight months from normal six months in cases where validation of new technology is involved.

It was also stated that taxes were charged by the Government keeping in view the fiscal policies and loss/gain on account of these policies was only on account to Government and not to any private party and should be treated as notional loss/gain.

The procurement manual of MTNL stipulates that during the extended delivery period for supply of equipment any increase in taxes shall be to the supplier's account. Further, MTNL as a commercial entity must safeguard its interest, which has clearly not been the case on account of inordinate delay in issue of purchase order.

6.6.3 Irregular advance payment of Rs 5.86 crore

MTNL extended undue benefit of Rs 5.86 crore as excess advance payment to the supplier

Against the purchase order of March 2000 by MTNL Delhi, M/s Motorola commissioned (October 2001) only 34,800 out of the total ordered capacity of 50000 lines. The remaining 15,200 lines were supplied and put to use belatedly in March 2003. As per terms and conditions of the purchase order, advance payment of Rs 10.55 crore was payable. However, MTNL paid Rs 16.41 crore (Appendix-23). This lapse on the part of MTNL resulted not only in acceptance of short-equipped capacity but also in extending undue benefit of excess advance payment of Rs 5.86 crore to the supplier.

6.6.4 Irregular placement of purchase order for expansion of capacity

A purchase order for expansion of capacity was placed on the existing supplier without inviting fresh tenders

The 50,000 lines system supplied and installed by March 2003 in Delhi by M/s Motorola did not meet the technical specifications. In spite of this, MTNL placed another purchase order on turnkey basis for expansion of capacity up to 1.5 lakh lines based on latest CDMA 2000 1X technology on M/s Motorola in August 2002 for Rs 84.93 crore without inviting fresh tenders. In the absence of competitive rates, MTNL had no choice but to accept the price offered by M/s Motorola, which was irregular and not in the overall financial interests of MTNL.

On this being pointed out by Audit, it was stated by the Management (November 2004) that after upgradation of the system, all the deficiencies had been resolved.

The reply is not relevant and procurement of WLL CDMA amounting to Rs 84.93 crore without inviting tenders was irregular and reflected lack of transparency in the tendering process.

6.7 Procurement of WLL handsets

The success of WLL system is dependent on the availability of WLL handsets {both fixed wireless terminals (FWT) and mobile terminals (mobile sets)} for without handsets request for WLL connections from the subscribers could not be accepted. It was, therefore, very important for MTNL to make advance procurement of sufficient number of WLL handsets at most economical rates so as not to hinder the growth in subscribers' base.

A review of the records pertaining to procurement of WLL handsets revealed the following:

6.7.1 Extra expenditure of Rs 24.50 lakh due to procurement of handsets at higher rates

In the process of tender evaluation before finalisation of prices, the reasonableness of rates should be checked with reference to market rates. A good yardstick of market rate is the rate obtained by Bharat Sanchar Nigam Limited (BSNL).

In the course of audit, it was noticed that MTNL, in the case of procurement of WLL handsets failed to check the reasonableness of rates. Against a limited tender enquiry (December 2002), MTNL placed (March 2003) a purchase order for supply of 60,000 (30,000 each for Delhi and Mumbai) mobile handsets without data cable at the rate of Rs 5,000 per handset on M/s XL Limited. MTNL placed (May 2003) separate purchase order on the same supplier for procuring 32,000 data cables at a price of Rs 200 per data cable. The total cost per handset including data cable for MTNL worked out to Rs 5,200. It was noticed in audit that during the same period, BSNL had also placed (April 2003) a purchase order on the same supplier at a price of Rs 4,995 per handset including data cable. The price of handsets and data cable procured by MTNL was higher by Rs 205 per set. This resulted in avoidable extra expenditure of Rs 24.50 lakh in procurement of 11,950 data cable. The balance quantity was short-closed. Also, after receipt of 33,000 mobile handsets out of 60,000 ordered, MTNL stopped the procurement of balance 27,000 handsets due to difference in prices.

On this being pointed out by Audit, the Management replied (November 2004) that it was not appropriate and logical to compare the prices obtained against two different tenders since the specification of quantity and the terms and conditions would differ between the two tenders. It also stated that due to urgency the rates of MTNL could not be compared with those of BSNL. It further stated that after intervention of Central Vigilance Commission the rates of BSNL were negotiated with vendor and balance 27,000 terminals were procured at Rs 4,995 per terminal.

MTNL failed to consider the reasonable market rate or the rate paid by BSNL while procuring handsets

The reply confirms that MTNL, in the first instance, failed to consider the reasonable market rate i.e. BSNL rate before finalising the rates for procurement of 60,000 handsets.

6.7.2 Infertuous expenditure of Rs 16.49 crore due to non repair of faulty/damaged handsets

Stringent quality tests were not conducted for handsets. As a result, many handsets were found to be faulty

The purchase order for WLL handsets provides for stringent quality checks by MTNL before the supplies are made. During the course of verification of records by audit, it was observed that 5,499 handsets were diverted from Delhi unit to Mumbai unit in January/March 2002 at the time of launching Garuda service in Mumbai. Out of these, 300 handsets were sent back to Delhi, being faulty. Thereafter, another 1,017 handsets valuing Rs 1.74 crore became faulty and were lying at MTNL stores in Mumbai as of March 2004.

Similarly, as of March 2004, 5,882 faulty handsets and 2,393 damaged handsets valued at Rs 14.75 crore (Appendix-24), were lying in the MTNL stores in Delhi. There was no arrangement to get all these handsets repaired and MTNL had taken no action in this matter.

The entire expenditure of Rs 16.49 crore on procurement of handsets was infertuous due to obsolescence and lack of compatibility

From the above, it is evident that quality checks were not adequate. Further, the chance of their utilisation was remote due to technological obsolescence and lack of compatibility. Thus, the entire expenditure of Rs 16.49 crore on procurement of these handsets was infertuous.

On this being pointed out by Audit, the Management accepted (November 2004) that these handsets were faulty. It further stated that as the life of these handsets was two years and the cost of repairs exorbitant, efforts were not made to repair them.

6.7.3 Idling of FWT/mobile handsets valued at Rs 52.80 crore

The CDMA WLL Project was conceived with the main objective to clear the technically non-feasible (TNF) areas. Deploying Fixed Wireless Terminals (FWTs) is one of the ways of clearing TNF cases within the shortest possible time.

Non-utilisation of FWTs and mobile handsets for TNF areas defeated the purpose of their procurement

On the scrutiny of records, it was noticed in audit that Mumbai unit had received 25,000 FWTs during the calendar year 2002. Out of these, 4,826 FWTs valuing Rs 7.33 crore (Appendix-25) were lying in stock as on 31 March 2004 despite the fact that 35,179 TNF cases were pending for clearance in Mumbai on that date. Similarly, in comparison to working connections as on 31 March 2004, 9,361 FWTs and 17,374 mobile sets valuing Rs 45.47 crore were lying idle in Delhi unit.

Thus, non utilisation of FWTs and mobile handsets procured two years earlier, resulted not only in blocking of funds amounting to Rs 52.80 crore in Delhi and Mumbai but also defeated the very purpose of clearing TNF cases.

On this being pointed out by Audit, the Management stated (November 2004) that providing connection on FWTs for TNF cases was not always possible due to customers' unwillingness to take wireless connection. It was further stated that in some areas the coverage was deficient and in some areas the capacity of CDMA system was not able to cater to all TNF cases. From the reply it is evident that MTNL failed to estimate the requirement of FWTs and provide adequate capacity of CDMA system.

6.8 Purchase Orders

WLL project was a turnkey project and included procurement of equipment, survey, preparation of design, installation and commissioning. The terms and conditions of purchase order should have been comprehensive in their coverage.

MTNL failed to safeguard its interest in purchase orders

Audit noticed that MTNL not only relaxed clauses of prescribed quality checks, but also failed to make essential provisions safeguarding its interest within the scope of purchase order as discussed below:

6.8.1 No penal action on supply of defective system

The WLL systems of 1,000 lines and 9,000 lines supplied by M/s Qualcomm, USA and M/s ITI during 1997-99 had deficiencies which were not rectified by these suppliers. These systems were procured at a cost of Rs 5.45 crore and Rs 14.40 crore, respectively, against which payments of Rs 3.75 crore and Rs 7.20 crore, respectively were released. There was no clause in the purchase order empowering the Management to initiate penal action for supply of defective system. Hence, MTNL could not initiate any penal action against these firms.

There was no clause in the purchase orders to initiate penal action for supply of defective systems

MTNL launched the service commercially in May 1997 (1,000 lines) and October 1999 (9,000 lines) subject to rectification of the deficiencies. However, the suppliers did not rectify these deficiencies and the system was never declared commissioned. Ultimately MTNL Delhi proposed scrapping of the 10,000 lines system in March 2004. This resulted in infructuous expenditure of Rs 10.95 crore.

Scrapping of the deficient system led to infructuous expenditure of Rs 10.95 crore

On this being pointed out, the Management stated (November 2004) that M/s Qualcomm was paid only 25 per cent of the cost for 1000 line equipment and M/s ITI was paid 50 per cent for 9,000 lines expansion equipment. Since no payment against installation and commissioning were made, the remaining amount was tantamount to more than 100 per cent LD. The reply is not tenable, as the purpose was not served and the expenditure became infructuous.

6.8.2 Inaccuracy in survey and design – poor coverage of areas

Purchase orders were deficient in ensuring proper survey and design by the suppliers

Audit scrutiny of purchase orders revealed that suppliers were to conduct survey and prepare design of equipment before supply. But there was no clause in the purchase orders specifying the role of MTNL in ensuring adequacy and accuracy of the survey and design. As the systems were not performing well and had operational problems like call drops, no tone, speech cutting, poor speech quality and inadequate area coverage, it is evident that survey and design of the equipment was not adequate.

Inaccuracy in survey and design of the systems led to coverage problems in Delhi and Mumbai

In the case of MTNL Mumbai, it was observed that 50,000 lines WLL system was put into commercial use in January 2002 without carrying out acceptance testing such as coverage test, link quality test and tower structure erected on building. Major areas in Mumbai were either under partial coverage or inadequate/no coverage. Further, on expanding the WLL capacity to 1,42,230 lines (August 2003) against MTNL's coverage standards in buildings, car and on road, the actual coverage was inadequate. The latest survey conducted by MTNL in March 2004 based on written complaints from the customers again confirmed the coverage deficiency in Mumbai and Navi Mumbai area.

In the case of MTNL Delhi, it was observed that the service coverage problem in 50,000 lines system supplied by M/s Motorola existed since the installation of the system. As such, the system had not been taken over by MTNL. Further, the coverage issue in respect of expanded capacity of 1.5 lakh lines (March 2003) remained pending (March 2004) though the same was taken up with the supplier (M/s Motorola).

Thus, due to non-provision of MTNL's role in ensuring the adequacy and accuracy of the survey and design, MTNL was not only misled by the supplier on coverage issue, but the quality of service remained poor and adversely affected its commercial utilisation.

Deficiencies in the systems and quality of service in Mumbai and Delhi were accepted by the Management

The Management accepted (November 2004) that the network was found deficient in coverage, capacity and quality of service in both Mumbai and Delhi and the matter was being pursued with vendors to improve upon those parameters. It also stated that a committee had been formed to look into these issues. These failures occurred as the Management failed to associate itself in the survey and design of the systems.

6.9 Utilisation and operational performance of the WLL Systems

The overall installed capacity of the WLL systems in Delhi and Mumbai and its utilisation during the period ended 31 March 2004 was as under:

Year ending on	Total equipped capacity (Lines)	No. of working connections (Lines)	Capacity utilised (%)	Reason for under-utilisation
DELHI				
31.03.2000	10,000	6,636	66.36	Deficiencies in the system
31.03.2001	10,000	6,913	69.13	Deficiencies in the system
31.03.2002	44,800	38,182	85.23	Deficiencies in the system
31.03.2003	1,50,000	41,289	27.53	Non-opening of registration & deficiencies in the system
31.03.2004	1,50,000	78,015	52.01	Non-availability of handset & deficiencies in the system
MUMBAI				
31.03.2004	1,42,230	64,269	45.00	-Shortage of handsets. -Entry of private operators with new CDMA 2000 1X technology, -Limited features -Inadequate coverage.

The installed capacity of the systems in Delhi and Mumbai was underutilised

From the above table, it is seen that the utilisation of capacity in Delhi during March 2000 to March 2004 ranged between 27.53 per cent and 85.23 per cent. In Mumbai, the WLL service was introduced in January 2002 and as of 31 March 2004, the utilisation of capacity was only 45 per cent.

The under utilisation of capacity was on account of deficiencies in the system and non-availability of handsets.

6.10 Revenue

6.10.1 Revenue Generation

The details of actual revenue earned in Delhi and Mumbai units of MTNL from WLL subscribers compared to estimated revenue during the last four years up to 2003-04 are as below:

Year	Revenue projected		Actual revenue earned		Shortfall in revenue realisation	
	Delhi	Mumbai	Delhi	Mumbai	Delhi	Mumbai
2000-01	30.08	NA	5.60	NA	24.48	NA
2001-02	53.83	54.52	9.38	0.57	44.45	53.95
2002-03	87.09	65.42	18.26	18.49	68.83	46.93
2003-04	72.24	86.12	27.98	21.13	44.26	64.99
Total	243.24	206.06	61.22	40.19	182.02	165.87

There was shortfall of Rs 347.89 crore in actual generation of revenue compared to the projected revenue

From the above table, it is seen that as per project estimate, Rs 243.24 crore revenue for Delhi and Rs 206.06 crore revenue for Mumbai was projected for the last four years up to 2003-04, against which only Rs 61.22 crore and Rs 40.19 crore respectively, was actually earned. Hence, there was shortfall of Rs 182.02 crore and Rs 165.87 crore in generation of actual revenue compared to the projected revenue in Delhi and Mumbai respectively.

In reply, the Management stated (November 2004) that the projected revenue could not be realised due to introduction of other private operators, TRAI tariff guidelines, calling party pays (CPP) regime for GSM customers and various promotional schemes by other operators.

The reply is not tenable as the private operators started their operations only from December 2002/May 2003, whereas MTNL had been in this field since 1997. Besides, TRAI tariff guidelines, CPP regime, etc., were also applicable to other operators and it was for MTNL to introduce competitive promotional schemes to enhance its subscribers' base and revenue.

6.10.2 Revenue billed, collected and outstanding for collection

The details of revenue billed, collected and outstanding against CDMA WLL subscribers in Delhi and Mumbai at the end of each year from 2000-01 to 2003-04, as furnished by the Management to Audit, were as under:

Delhi

Year	Revenue billed during the year (Rs in crore)	Revenue collected during the year (Rs in crore)	Percentage of revenue collected to revenue billed
2000-01	5.60	4.89	87
2001-02	9.38	5.23	56
2002-03	18.26	14.33	78
2003-04	27.98	15.16	54

Mumbai

Year	*Revenue billed during the year (Rs in crore)	*Revenue collected during the year (Rs in crore)	Percentage of revenue collected to revenue billed
2001-02	0.18	0.18	100
2002-03	13.94	13.04	94
2003-04	13.71	11.14	81

There was poor revenue collection in Delhi and Mumbai as compared to the billed revenue

From the above tables, it is seen that in Delhi the percentage of collection of revenue showed a decreasing trend from 87 *per cent* in 2000-01 to 54 *per cent* in 2003-04. Similarly, the collection of revenue in Mumbai decreased from 100 *per cent* in 2001-02 to 81 *per cent* in 2003-04. Examination in audit revealed that the main reason for short collection of revenue was bulk booking of WLL connections without verification of the subscribers' identities prior to activation as well as non-pursuance on the part of the Management to recover outstanding amounts from the defaulters.

On this being pointed out, the Management stated (November 2004) that in Delhi more than 85 *per cent* revenue billed had been realised during the three year period 2000-03 and 66 *per cent* for the year 2003-04. The reply of the Management confirmed that out of Rs 61.22 crore billed during 2000-04 an amount of Rs 13.94 crore was outstanding as of September 2004. The sharp

* Figures relate to WLL Mobile Services and do not include WLL fixed services

decline in revenue realisation in the year 2003-04 was also confirmed by the Management. It was also stated that in Mumbai verification of bonafides of subscribers and recovery of outstanding amount had been entrusted to authorised agents.

6.10.3 Loss of potential revenue due to supply of short equipped system

Capacity constraints led to loss of potential revenue

Against the ordered (March 2000) quantity of 50,000 lines system, only 34,800 lines were received and put to use (October 2001) by M/s Motorola, which got exhausted by December 2001. The remaining 15,200 lines were belatedly supplied and put to use by M/s Motorola in March 2003. Hence, despite having demand for new WLL connections, no new connections could be booked by MTNL during January 2002 to March 2003 due to capacity constraints. Hence, there was a loss of potential revenue of Rs 15.75 crore for the period January 2002 to March 2003 due to initial shortfall of 15,200 lines in equipped capacity worked out based on average per line actual revenue realized by MTNL during 2002-03.

In reply, the Management stated (November 2004) that liquidated damages on account of delay in services would be recovered from the supplier while releasing the payment.

The fact remained that the Company had suffered loss of potential revenue on account of short supply of equipped capacity by the supplier.

6.11 Billing system of WLL

MTNL did not procure any billing system/device for billing of WLL mobile as well as fixed connections. The existing computerised system of billing of landline connections, known as Customer Service Management System (CSMS), was modified to accommodate the online registration, tariff issued from time to time for WLL and generation of bills.

6.11.1 Incomplete generation of bills

Inadequate monitoring and control over feeding data in the billing system led to incomplete generation of bills

In Delhi, Audit noticed discrepancies between the number of bills issued and actual number of working connections (Appendix-26). On this being pointed out, the Management stated that the variations were due to delay in completion of Order Book (OB) at different stages, issue of manual OBs due to non-availability of data and opening of connections at the end of the month. The reply indicates discrepancies in billing and booking of connections due to inadequate monitoring and control over the feeding of subscriber data in the billing system as well as lack of co-ordination between commercial and billing sections.

Similarly, in Mumbai, scrutiny of records in respect of WLL working lines for the last four months ending March 2004 revealed that there was a large difference between the lines shown as working at exchanges and CSMS terminal (Appendix-27). The differences were due to non-feeding of subscribers' data in

CSMS terminals, non-removing lines of surrendered connections, non-deletion of closed connections etc.

6.11.2 Non-billing and inordinate delays in issue of bills to subscribers

It was noticed in audit that in respect of 43 cases in Delhi, no bills were issued for want of complete subscriber data. This implied that the subscribers' data viz, name, address (billing address) etc., were not fed in the system. This resulted in non-billing of Rs 0.14 lakh. Further, in Delhi, consolidated bills were issued after a gap of 3 to 15 months from the date of their installation. Due to this, Rs 13.32 lakh could not be realised for more than one year in Delhi.

First bills for new connections were not issued in time by MTNL in Mumbai

On review of the position of issue of first bills in respect of new connections in Mumbai, it was noticed in audit that the first bills were not issued in time in case of 9,163 subscribers out of 14,528 cases test checked during the period September 2003 to February 2004. In these cases, the delay ranged from one month to four months and the amount involved was Rs 92.16 lakh (Appendix-28), which was indicative of Management's failure in monitoring and controlling the billing process for new connections.

In reply, the Management, while accepting the facts, stated (November 2004) that necessary corrective measures had been taken and delay in issue of bills was brought down to the barest minimum.

6.11.3 Loss of revenue of Rs 25.50 lakh due to delay in disconnection for non-payment

In the case of landline connections and WLL connections, the telephone must be disconnected positively on the 45th day of the bill date in case of non-payment of bill.

Delays in disconnection of WLL services for non-payment led to loss of revenue

During test-check of records in respect of ten levels of WLL lines, it was noticed that MTNL Mumbai took 18 days to 296 days beyond the prescribed limit of 45 days to debar 434 defaulting subscribers. Further, a random test check on 5,495 cases under 4 levels revealed that delayed disconnections contributed to outstanding dues to the extent of Rs 12.02 lakh.

Similarly, in Delhi, test checks in respect of 541 defaulting subscribers revealed that the WLL services were disconnected after inordinate delay ranging from 47 days to 393 days, which not only violated the instructions in the matter but also resulted in extending undue benefit to these defaulters to that extent. This resulted in accumulation of outstanding dues to the tune of Rs 13.48 lakh.

In reply, the Management, while accepting the facts, stated (November 2004) that corrective action was being taken.

6.12 Wasteful expenditure in acquisition of WLL Cordect system

MTNL introduced the Cordect system in 2000-03

WLL Cordect system, similar to WLL CDMA, was developed by IIT Madras. MTNL procured WLL Cordect system during 2000-03 for a total of 35,000 lines at a cost of Rs 54.74 crore. The system was commissioned during the year 2000-03 in Delhi and Mumbai.

The system procured at Rs 52.32 crore remained grossly unutilised

Audit scrutiny revealed that against an equipped capacity of 2,000 lines, (September 2001) of WLL Cordect equipment costing Rs 2.42 crore Delhi unit could provide only 523 and 321 connections in Najafgarh and Badli exchanges respectively. In spite of under-utilisation, MTNL further placed (September 2001) purchase order for procurement of 28,000 lines of WLL Cordect system on the justification to clear the technically non feasible (TNF) cases. As the WLL CDMA system was commissioned by Delhi unit in May 1997 to clear TNF cases and adequate cables were laid for clearing TNF cases, the procurement of WLL Cordect system in September 2001 was not justified and expenditure of Rs 44.09 crore on additional capacity of 28,000 lines proved to be wasteful due to under utilisation. In Mumbai unit, although WLL CDMA having 50,000 lines was already commissioned in January 2002, which was sufficient to clear the TNF cases, induction of WLL Cordect system having 5,000 lines in September 2002, was redundant. Resultantly, the Cordect system remained unutilised, resulting in wasteful expenditure of Rs 8.23 crore.

On this being pointed out, the Management replied (November 2004) that the utilisation of WLL Cordect systems had decreased due to shift of customers to landline as well as availability of CDMA fixed wireless phones with advantage of mobility over bigger geographical area. The reply indicates that MTNL did not take into account the commissioning of CDMA system and provision of landline in TNF areas due to laying of cables before procuring WLL Cordect system. This resulted in non-utilisation of WLL Cordect system and consequent wasteful expenditure.

6.13 Conclusion

Review of WLL systems reveals that these were commissioned after considerable time overrun and even after that, capacity constraints were not addressed. When these bottlenecks of capacity constraints were removed, fresh connections could not be given due to inadequate number of handsets. Quality of service offered was poor in terms of area coverage. All these translated into comparatively slow expansion of subscribers' base. While private operators started five years after MTNL's initial service commencing in 1997, their base in Mumbai and Delhi at 20.31 lakh in March 2004 was 14 times more than 1.42 lakh subscribers of MTNL.

6.14 Recommendations

➤ MTNL needs to review and strengthen its planning mechanism to avoid future delays and bottlenecks in general and particularly in execution of turnkey projects.

- The procurement procedure for WLL system needs to be thoroughly reviewed with a view to ensuring that contractual commitments are clearly laid down and adhered to by the suppliers so that the commercial interests of MTNL are safeguarded.
- After commissioning of the system, capacity constraints due to technical deficiencies should be attended to and the system should be optimally put to use.
- Billing system should be strengthened for timely issue and realisation of bills.