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(State)

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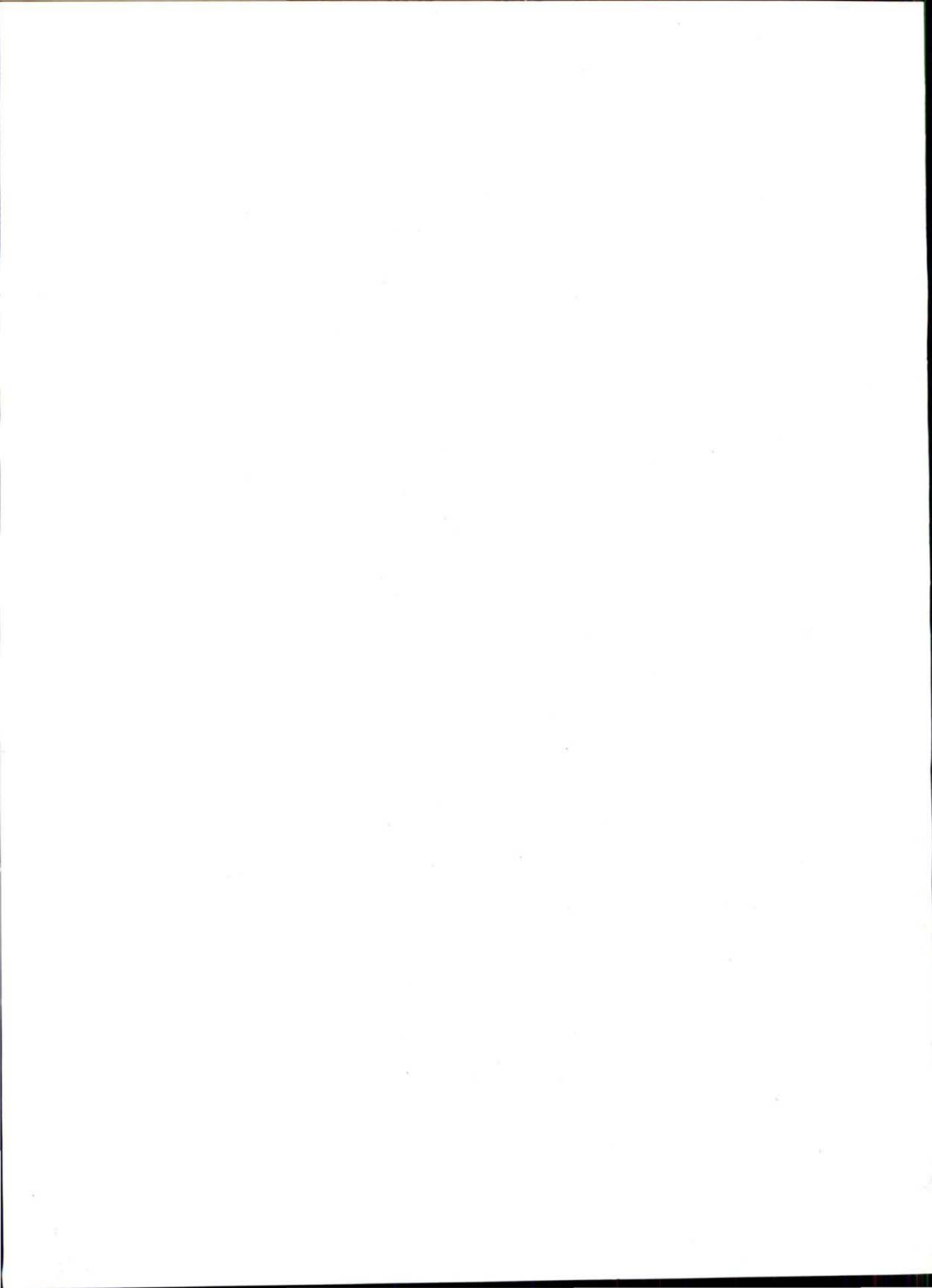
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**Report of the
Comptroller and Auditor General of
India**

for the year ended March 2006

**Union Government (Commercial)
(Telecommunications Sector)
No.10 of 2007
Performance Audit**



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PREFACE

Report No. 10 of the Comptroller and Auditor General of India for the year ending March 2006 has been prepared for submission to the Government in terms of the provisions of Section 19-A of the Comptroller and Auditor General's (Duties, Powers and Conditions of Service) Act, 1971, as amended in 1984. It features the results of performance audit of the public sector undertakings of the telecom sector. The Companies covered are Bharat Sanchar Nigam Limited and Mahanagar Telephone Nigam Limited under the Department of Telecommunications (Ministry of Communications and Information Technology).

The Report contains three chapters.



OVERVIEW

This Audit report for the year 2005-06 contains the results of Performance Audit of the “cellular mobile telephone services” and “Functioning of telecom factories” in Bharat Sanchar Nigam Limited (BSNL) and of “Billing and Customer Care System” in Mahanagar Telephone Nigam Limited (MTNL).

Cellular Mobile Telephone Services in BSNL

Cellular mobile telephone services (CMTS) in BSNL is based on the Global System for Mobile communication (GSM) Technology. Though the erstwhile Department of Telecom Services (DTS) of the Department of Telecommunications (DoT) was given a licence in February 2000 for operation of CMTS in the country, BSNL could commence countrywide large-scale rollout of post-paid (CellOne) and pre-paid (Excel) CMTS only in October 2002.

CMTS systems for 297 lakh lines at a cost of Rs 10,759 crore were procured by BSNL under phases-I to IV of its ‘India Mobile Personal Communication Services’ (IMPCS) project. BSNL installed systems having equipped capacity of 194 lakh lines up to March 2006 and the capacity utilisation as of March 2006 was 89 *per cent*. BSNL Board initially approved (January 2005) a major expansion of CMTS by 641 lakh lines under phase-V of the IMPCS project. The process of selection of suppliers had still not been completed as of September 2006 though the project was to be completed by December 2007.

Since the commencement of CMTS, a total of 72 lakh connections had been closed due to surrender by the customers or disconnections by BSNL due to non-payment of dues by the customers. 20 lakh connections were closed in just four months. As of March 2006, BSNL’s share in the country’s total CMTS customer base of 692 lakh customers was 25 *per cent*.

BSNL suffered financial losses due to inadequate customer care and deficiencies in billing and collection of revenue. Besides, the deficiencies in planning, creation of infrastructure, procurement, installation and commissioning of systems and network coverage, delays in rectification of faults during AMC and warranty were also noticed. BSNL also could not achieve the quality of service benchmarks prescribed by TRAI, which had adversely affected the customer base.

BSNL, in order to become the leader in providing CMTS, not only needs to strengthen and improve its planning and procurement procedures but also the systems for customer care, billing and collection of revenue. The quality of service needs further improvement through better network coverage and customer care to achieve the benchmarks prescribed by TRAI.

(Chapter-I)

Functioning of Telecom Factories in BSNL

The telecom factories are in-house manufacturing units of BSNL for supply of various line stores, cable accessories, coin box telephones, exchange equipment, towers etc. There are seven telecom factories at Alipore, Gopalpur, Kharagpur, Mumbai, Wright Town, Richhai and Bhilai.

All the telecom factories put together had a turnover of Rs 290 crore for the year 2005-06 and staff strength of 4000 as of March 2006. The telephone services provided by BSNL grew exponentially with the introduction of wireless technologies, especially cellular mobile telephone services. The Company could not exploit this opportunity to increase the scale of production in the telecom factories. Production of telecom factories still accounted for a very small proportion of the overall procurement made by the Company.

There is an urgent need for the Company to increase the scale of production in the telecom factories by shifting the product range towards wireless technology. The increase in production, coupled with fixation of standard cost and efficient manufacturing would help the factories to reap the advantages of economies of scale and become profit centres.

(Chapter-II)

Billing and Customer Care System in MTNL

MTNL started their GSM services in 2001 and as of August 2006 had 9.32 lakh subscribers at Delhi and 11.91 lakh subscribers at Mumbai. The Company replaced their Billing and Customer Care System (B&CCS) in November 2004 without considering the economy of procuring a new system when a project for commissioning an advanced convergent billing system was already in the pipeline. The customization of the new system was deficient since the Company failed to enable important modules for credit control and charging of late fee for delayed payments before commissioning the new billing system. This led to piling up of outstanding telephone dues.

Subscriber data base in B&CCS lacked complete details of customers in as much as personal identification details of 7.57 lakh customers out of 9.64 lakh active customers of Delhi Unit were not available in the B&CCS. The Company needs to take effective steps to update the database with complete details of the subscribers. Utilizing the full potential of the B&CCS to offer improved services like hot billing, payment through credit card, easy redressal of customer complaints etc. would help the Company to perform better in a competitive environment.

(Chapter-III)

CHAPTER I

Performance Audit of Cellular Mobile Telephone Services in Bharat Sanchar Nigam Limited

HIGHLIGHTS

- The Tenth Five Year Plan target for providing CMTS connections to the customers by the Bharat Sanchar Nigam Limited (BSNL) was 224 lakh. Against this target, BSNL fixed annual targets aggregating 329 lakh for the period 2002-06, but the overall cumulative achievement against these targets during this period was only 52 per cent.

(Paragraph 1.12.2)
- CMTS systems for 297 lakh lines at a cost of Rs 10,759 crore were procured under phases-I to IV⁺⁺ of the 'India Mobile Personal Communication Services' (IMPCS) project. BSNL installed systems having equipped capacity of 194 lakh lines upto March 2006 and the capacity utilisation as of March 2006 was 89 per cent.

(Paragraphs 1.8 and 1.12.1)
- BSNL Board initially approved (January 2005) a major expansion of CMTS by 641 lakh lines under phase-V of the IMPCS project. The process of selection of suppliers had still not been completed as of September 2006 though the project was to be completed by December 2007.

(Paragraph 1.9.3)
- Since the commencement of CMTS, a total of 72 lakh connections had been closed due to surrender by the customers or disconnections by BSNL due to non-payment of dues by the customers. 20 lakh connections were closed in just four months.

(Paragraph 1.12.3)
- As of March 2006, BSNL's share in the country's total CMTS customer base of 692 lakh customers was only 25 per cent.

(Paragraph 1.9)
- The quality of CMTS remained unsatisfactory due to poor network coverage, system failures, low signals or no signals, call dropping, not attending to the customers' complaints, etc. Besides, BSNL was unable to meet various quality service benchmarks prescribed by the Telecom Regulatory Authority of India (TRAI).

(Paragraph 1.12.8)

- In 18 circles, 12,632 CMTS sites had been radiated during phases-I to IV of the IMPCS project without obtaining mandatory clearance from the Standing Advisory Committee on Frequency Allocations.

(Paragraph 1.10.1)

- Delays of up to 20 months in nine circles and one telephone district in handing over of 3,070 sites to the vendors for installation and commissioning for CMTS system equipment led to further delays in commissioning of these equipment.

(Paragraph 1.10.3)

- Unjustified expansion of the capacity of the Intelligent Network system in the East Zone by five lakh lines resulted in avoidable expenditure of Rs three crore.

(Paragraph 1.11.1)

- BSNL extended undue benefits to the suppliers by not obtaining prescribed additional performance bank guarantees of Rs 28 crore from them for allowing extensions ranging from three weeks to 55 weeks in the time schedule of commissioning of CMTS systems in five circles.

(Paragraph 1.11.2)

- Delays ranging from three weeks to more than two years in commissioning of CMTS systems under phases-I to IV of the IMPCS project in 12 circles were noticed. However liquidated damages amounting to Rs 274 crore were not recovered by BSNL from the concerned suppliers.

(Paragraph 1.11.3)

- Three circles failed to recover the excess amount of Rs 30 crore paid to the suppliers during phase-II⁺ of the IMPCS project despite instructions from the corporate office.

(Paragraph 1.11.4)

- BSNL suffered a loss of potential revenue of Rs 275 crore due to non-availability of recharge coupons /Top Up cards in Uttar Pradesh (West) Circle and delay in expansion of network in the West Zone.

(Paragraph 1.11.8 & 1.11.9)

- 10 circles and one Telephone District delayed the execution of annual maintenance contracts (AMCs) with vendors by 67 days to 481 days and paid Rs 18 crore to vendors without availing of AMC facility.

(Paragraph 1.12.4.1)

- BSNL failed to recover/levy penalty of Rs 28 crore from vendors for delays in rectification of faults during warranty and AMC periods.
(Paragraph 1.12.4.2 and 1.12.4.3)
- Poor performance of Interactive Voice Response System equipped call centers led to termination of 24 to 40 per cent of customers' calls without being answered during 2004-07 leading to customer dissatisfaction.
(Paragraph 1.12.6)
- BSNL suffered a loss of Rs six crore due to fraud committed by the customers booked through franchisees.
(Paragraph 1.12.5)
- Delayed implementation of threshold server for monitoring the credit limits, issue of connections without verifying the particulars of customers and failure to activate the automatic disconnection facility in the billing system led to loss of revenue of Rs 57 crore.
(Paragraph 1.13.2)
- Recharge coupons and top-up cards valuing Rs 16 crore remained unreconciled with the cash receipt against them.
(Paragraph 1.13.4)

RECOMMENDATIONS:

It is necessary for BSNL to:

- ensure timely finalisation of the entire procurement process to avoid the risk of delays in procurement, installation and commissioning of the CMTS equipment and the loss of customer base.
- prescribe in advance the time schedules for the various activities to be undertaken by circles for the creation of necessary infrastructure and for the handing over of sites to the vendors for installation and commissioning of CMTS equipment.
- prepare appropriate strategies for ensuring optimum utilisation of the equipped capacity of its CMTS systems and achievement of operational targets for the release of connections.

- **monitor the performance of the suppliers in carrying out their responsibility towards providing adequate and uninterrupted network coverage during warranty and AMCs.**
- **monitor the performance of the customer care centres and ensure adherence to the quality of service norms fixed by TRAI to avoid the risk of migration of the customers to other operators.**
- **ensure effective monitoring of collection of outstanding revenue and timely billing of the customers to avoid the risk of revenue arrears becoming unrecoverable.**

1.1 INTRODUCTION

The major objective before Bharat Sanchar Nigam Limited (BSNL) on its formation in September 2000 was fulfillment of its Universal Service Obligations under the National Telecom Policy (NTP)-1999. The Tenth Plan (2002-07) policies and programmes were also guided by the basic goal of creating a world-class telecom infrastructure in order to meet the requirements of Information Technology (IT) sector and the needs of a modernizing economy. The Cellular Mobile Telephone Services (CMTS) were expected to be the cornerstone of the public sector expansion plans in the Tenth Plan and BSNL was expected to be a major national player in these services.

On the basis of a pilot project undertaken (December 1999) through C-DOT by the Department of Telecommunications (DoT), BSNL commenced CMTS on an experimental basis in Bihar and Jharkhand circles from January 2001, in the Calcutta Telephones District from November 2001 and in the Tamil Nadu Circle from July 2002. A countrywide large-scale rollout of post-paid CMTS under the brand name 'CellOne' and pre-paid CMTS under the brand name 'Excel' on commercial basis was done by BSNL in October 2002 (except in the Assam, J&K and North East circles). Lucknow city, under the Uttar Pradesh (East) Circle, was the first to rollout post-paid (CellOne) CMTS in October 2002. CMTS was launched in the J&K Circle in August 2003, in the North East Circle in November 2003 and in the Assam Circle in February 2004.

BSNL is presently using 2.5 G (Global System for Mobile with General Packet Radio Service) technology and has been allotted 6.2 Mega Hertz (Mhz) and 8 Mhz spectrum in different circles.

For billing revenue from CMTS, BSNL had established five Billing and Customer Care Centres (B&CCS) at Chandigarh, Kolkata, Pune, Hyderabad and Trichy.

The position of revenue, expenditure, operating profit and average revenue per unit (ARPU)^{*} pertaining to CMTS of BSNL during the four years upto 2005-06 was as under:

Year	Number of customers	Revenue	Expenditure	Operating profit	ARPU
	(in crore)	(Rupees in crore)			(3/2)
(1)	(2)	(3)	(4)	(5)	(6)
2002-03	0.23	403	252	151	1,752
2003-04	0.53	2,133	1,010	1,123	4,025
2004-05	0.94	3,954	1,694	2,260	4,206
2005-06	1.72	6,525	2,644	3,881	3,794

ARPU had suddenly decreased during the year 2005-06 compared to previous year despite substantial increase in the number of customers which was mainly on account of decrease in CMTS tariffs under different schemes.

1.2 ORGANISATIONAL SETUP

The overall control over CMTS operations rests with the Chairman and Managing Director (CMD). At the corporate level, the CMD is assisted by the Director (Commercial & Marketing), Sr. Deputy Director General (CMTS-Operation & Maintenance), Deputy Director General (CMTS) and five Joint Deputy Directors General. At the circle level, the Chief General Managers/General Managers and Deputy General Managers assist the CMD.

1.3 SCOPE OF AUDIT

Performance audit of CMTS in BSNL covered various activities relating to their planning; procurement, delivery, installation, acceptance testing and commissioning; utilisation and operational performance; billing, collection and accounting of revenue; customer care and quality of services provided to the subscribers pertaining to the period from 2001-02 to 2005-06. The relevant records maintained at the corporate office and 22 telecom circles[‡] as well as the two Metro Districts located at Kolkata and Chennai were reviewed.

1.4 AUDIT OBJECTIVES

The main audit objectives were to assess if:

- BSNL had adequately planned for initial launching and subsequent expansion of Cellular Mobile Telephone Services;

^{*} Average revenue earned per customer

[‡] Out of 24 circles, the records of two circles namely, the Andaman & Nicobar and North East-II circles were not reviewed

- BSNL created the required infrastructure before installation of CMTS equipment;
- BSNL procured CMTS equipment in an economical and efficient manner;
- the delivery, installation and commissioning of CMTS equipment were efficient and economical;
- BSNL optimally utilized the equipped capacity of CMTS;
- the operational performance of CMTS was effective and remunerative;
- the quality of services provided to the customers was satisfactory; and
- the system of billing, collection and accounting of revenue from CMTS was economical, efficient and effective.

1.5 AUDIT CRITERIA

The main criteria used for audit were as follows:

- Codal provisions for assessment of requirements, provision of infrastructure and selection of technology.
- Codal provisions for tendering and procurement.
- Terms and conditions of purchase orders.
- Operational and financial performance indicators fixed by DoT and the Company.
- Performance indicators fixed by the Telecom Regulatory Authority of India in respect of quality of service.

1.6 AUDIT METHODOLOGY

The audit methodology involved examination of documents and discussions with the auditee to evaluate the performance of the CMTS on the basis of the audit criteria broadly outlined earlier.

1.7 ACKNOWLEDGEMENT

For conducting the Performance Audit, the audit teams visited the corporate office, all circles (except the Andaman & Nicobar and North East-II circles) and two telephone districts of BSNL including the SSAs falling under various Circles. In the course of audit a number of issues were deliberated, besides examination of records and documents. Entry and exit conferences were also held at Circle level and with Corporate Management. Audit acknowledges the cooperation and assistance extended by all levels of the auditee organisation at various stages for completion of the Performance Audit.

1.8 AUDIT FINDINGS

In December 1999, DoT entrusted* to C-DOT the work of the CMTS pilot project to be undertaken on a turnkey basis at a cost of Rs 43.80 crore in the Bihar and Andhra Pradesh circles and two Telephone Districts at Chennai and Kolkata. The erstwhile Department of Telecom Services (DTS) of DoT was given a licence in February 2000 for operation of CMTS in the country (except Assam, J&K and North East circles and Delhi and Mumbai cities#) for 20 years. Government permitted BSNL to launch CMTS in the Assam, J&K and North East circles in August 2002.

Based on the pilot project, the Telecom Commission decided in August 2000 to widen the scope of CMTS to 15 lakh connections. After incorporation of BSNL in September 2000 and transfer of the service providing functions of DTS and DTO of DoT to it in October 2000, BSNL ventured (November 2000) upon its major GSM based CMTS under "India Mobile Personal Communication Services" (IMPCS) project. The scope of the first tender was enhanced to 40 lakh lines of CMTS, of which 15 lakh lines were to be procured in phase-I and 25 lakh lines in phase-II. The roll out of this capacity in the country was to be completed in a period of two years. Thereafter, BSNL procured additional CMTS lines to enhance its CMTS capacity throughout the country under the subsequent phases-III and IV** of its IMPCS project and further ventured on tendering for CMTS equipment for phase-V of this project in March 2006.

Audit observed that of the total of 297.46 lakh lines of CMTS systems valued at Rs 10,758.63 crore ordered for procurement during 2001-02 to 2005-06 under phase-I to phase-IV** of IMPCS project, systems having installed capacity of 193.53 lakh lines only had been commissioned upto March 2006. The actual capacity utilisation of these equipment upto March 2006 was 88.69 per cent (i.e. 171.64 lakh lines). Though it was expected that BSNL would provide around 223.84 lakh connections of CMTS during the Tenth Plan period (2002-03 to 2006-07), only 171.64 lakh connections were provided by BSNL upto March 2006.

Besides, under phase-V of IMPCS project, BSNL had planned to procure 635 lakh lines of CMTS at an estimated cost of Rs 21,590 crore (i.e. Rs 3,400 per line). Out of 635 lakh lines, a mega tender for 455 lakh lines issued in March 2006 to registered Indian companies was still (September 2006) under finalisation

* The CMTS pilot project was to be undertaken by the Center for Development of Telematics (C-DOT). The essential components of the project like Mobile Services Switching Centre, Home Location Register, Visitor Location Register, Equipment Identity Register, Authentication Centre, Short Message Service and Voice Mail Service were to be supplied as per the developments carried out by C-DOT. The Base Station System was to be procured through an open tender by C-DOT.

CMTS licence for Mumbai and Delhi cities was with the Mahanagar Telephone Nigam Limited (MTNL).

and the remaining 180 lakh lines had been planned to be procured from ITI Limited (under the quota reserved for it) at the rate to be finalised for procurement of 455 lakh lines under the aforementioned tender.

Audit noticed certain points relating to planning, creation of infrastructure, procurement, capacity utilisation, operational performance, billing and collection of revenue and quality of the CMTS provided by BSNL which needed to be addressed urgently, especially in the light of competition from private operators. These are discussed in the succeeding paragraphs.

1.9 PLANNING

CMTS business is highly competitive as a number of private operators, such as Bharti Cellular, Hutchison Essar, Idea Cellular, BPL Mobile, RPG Cellular, Spice Communications, Fascal, Escotel Mobile, Aircel Digilink, Reliance Telecom and Bharti Hexacom were also providing CMTS in most of the areas where BSNL was operating. Out of the 691.98 lakh CMTS customer base in the country as of March 2006, BSNL's share was 171.64 lakh (24.80 per cent).

The year-wise total customer base of CMTS in the country vis-à-vis BSNL's share therein as at the end of each of the last four years upto 2005-06 was as under:

As at the end of	Country's total CMTS customer base* (in lakh)	BSNL's CMTS customer base (in lakh)	BSNL's percentage share in country's CMTS customer base
March 2003	127	23	18
March 2004	262	53	20
March 2005	410	94	23
March 2006	692	172	25

It was thus imperative on the part of BSNL to expeditiously increase its CMTS capacity based on a proper assessment of demand to meet the competition. This was especially so when precious time had been lost in procuring CMTS through the pilot project assigned to C-DOT while GSM technology for commercial use was already available and being used by other operators in the country. Audit observed delays in enhancement of CMTS capacity by BSNL, as discussed below.

1.9.1 Delay in initial launch of CMTS

DTS of DoT was issued the licence in February 2000 for operation of CMTS in the country. CMTS was launched by BSNL throughout the country on commercial basis only in October 2002 i.e. after a lapse of more than two and half years from the date of issue of the licence. Significant time was taken in drawing up specifications, formulating tender documents and in evaluating tenders. Other private operators, who were granted licences for CMTS in 1994-1995, had started

* Including customer base of MTNL

CMTS in their service areas within one year from the effective dates of their licence agreements despite the fact that CMTS technology being introduced by them at that time was new for India. The delay on the part of DTS/BSNL in launching of CMTS meant the loss of a certain share of the customer base that would have been secured during that period.

1.9.2 Delay in placement of purchase orders

- Audit noticed that the Assam Circle on getting the permission for launching CMTS in August 2002 under phase-I of the IMPCS project, immediately took up (August 2002) the matter with the corporate office and the Bihar Circle (nodal office) for placing advance purchase order on the already selected vendor (Ericsson) for the East Zone. Advance purchase order was to be issued by the Bihar Circle within 96 days, as per the Company's procurement policy. But the corporate office and the Bihar Circle took almost one year in sorting out this matter and the Bihar Circle finally issued the advance purchase order on Ericsson for supply and commissioning of 42,550 lines of CMTS in Assam Circle only in August 2003 resulting in delay of eight months.
- As per BSNL's Procurement Manual, purchase order should be placed on the selected vendor within 19 days from the date of issue of advance purchase order. Audit noticed that after the issue of the advance purchase orders there were delays from 126 days to 462 days in placing purchase orders in the Rajasthan Circle for procurement of CMTS equipment under phases-I, II, IV⁺ and IV⁺⁺ from Nokia and 114 days under phase IV⁺⁺ from Ericsson. The SDE (NP) CMTS, Rajasthan Telecom Circle stated that due to delays in assessment of the infrastructure requirement and transfer of the senior officers of the Circle the purchase orders were delayed.

1.9.3 Delay in finalization of tender for phase-V of IMPCS project

In November 2004, the Minister for Communications & IT outlined the vision statement that the country's overall telecom network (landlines, WLL and CMTS) capacity would be taken to 2500 lakh lines by December 2007 in which BSNL and MTNL were expected to have 50 *per cent* share. To achieve this target, the BSNL Board approved (January 2005) procurement of 641.30 lakh lines of CMTS under phase-V of the IMPCS project. Audit scrutiny of the records revealed that there were delays at every stage of finalisation of the tender and purchase orders were yet to be placed with the vendors.

- A committee constituted (January 2005) to formulate the expansion strategy reassessed the proposed procurement and recommended (June 2005) tendering for procurement of 400 lakh lines of CMTS with a quantity variation of upto 50 *per cent*.

- In order to give impetus to the Government's proposed policy for indigenous manufacture of telecom equipment, the Board revised (July 2005) its procurement policy to procure telecom equipment under any tender in two phases. In the first phase, vendors would supply 50 *per cent* of the total tendered equipment. In the second phase, the remaining equipment should have 20 *per cent* indigenous value addition.
- The Minister directed (August 2005) BSNL to tender for 600 lakh lines of CMTS with a quantity variation of upto 50 *per cent*. In the first phase, vendors should supply 33 *per cent* (instead of 50 *per cent*) of the tendered equipment and the remaining tendered equipment in the second phase must have 30 *per cent* (instead of 20 *per cent*) indigenous value addition.
- BSNL Board approved (November 2005) issue of open tender at the national level for three zones i.e. North, East and South for procurement of 450 lakh lines and reserved the balance of 150 lakh lines of CMTS equipment for West zone for ITI.
- The Government nominee Director suggested (December 2005/January 2006) reconsideration of the modalities of issuing the above tender and the Board constituted (January 2006) a committee of experts to vet the tender document.
- Based on the recommendations (March 2006) of the committee of experts, the Board approved (March 2006) the tender for inviting bids for procurement of 455 lakh lines of CMTS for three zones i.e. North, East and South from registered Indian companies and 180 lakh lines for the West zone were reserved for ITI. The eligibility criteria fixed for the bidders required that they should already have manufacturing facilities in India for the core equipment to be supplied or they themselves or their parent companies should create the infrastructure within six months from the date of issue of the purchase order for the first phase.
- The tender was opened in June 2006 and the process of selection of bidders for placement of purchase orders had not been completed as of September 2006.

Audit observed that although BSNL had a standardized procurement policy and had adequate experience in procurement of GSM equipment since 2001, there were inordinate delays in finalisation of the tender during 2005-06 as brought out above. Audit further noticed (October 2006) that between January 2005 and October 2006, the total addition of subscribers in GSM by private operators was 381.68 lakh subscribers (excluding Delhi and Mumbai where BSNL does not operate) and BSNL lost this opportunity due to delays in the tendering process.

RECOMMENDATIONS

- BSNL should ensure timely finalisation of the entire procurement process to avoid the risk of delays in procurement, installation and commissioning of the CMTS equipment and loss of customer base.

1.10 INFRASTRUCTURE

With a view to avoiding delay in commissioning of the CMTS systems, the corporate office issued (February 2001) instructions to the circles to keep the infrastructure ready in advance and reiterated these instructions from time to time. It was noticed that these instructions were not fully complied with by the circles. The corporate office on its part did not fix any time schedule for provision of infrastructure and failed to monitor the progress of work done by the circles in their areas. Consequently, there were inordinate delays in installation and commissioning of CMTS systems at many places.

1.10.1 Absence of SACFA[↓] clearance for sites

Telecom operators have to seek clearance for the sites where they intend to install wireless equipment from SACFA, which give site clearance within a period of six months from the date of receipt of the applications. The Corporate office, while prescribing the procedure to be followed, directed (February 2001) all circles to take immediate steps for obtaining clearance for sites from SACFA for installation of CMTS wireless equipment. Further, as per terms and conditions of the bid documents issued for procurement of CMTS equipment, selected vendors were to do all the activities relating to obtaining of SACFA clearance for the sites for which no separate charges were payable to them.

A test check of records of 18 circles^{*} revealed that a total of 12,632 CMTS sites were radiated during phases-I to IV of the IMPCS project without obtaining SACFA clearance as detailed in Appendix-I. Of these sites, 9,116 sites were those for which SACFA clearance had been sought for but was not received and 3,516 sites were those for which SACFA clearance had not at all been sought for by six circles[†].

[↓] SACFA: The Standing Advisory Committee on Frequency Allocations is the apex body in the WPC wing of DoT, consisting of members drawn from DoT and user departments such as All India Radio, Doordarshan, Defence, Railways, Civil Aviation, BSNL, etc for considering matters regarding coordination for frequency allocations and other related issues and for issue of clearance of sites for fixed stations and their antenna masts.

^{*} Andhra Pradesh, Assam, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, J&K, Karnataka, Kerala, Madhya Pradesh, Maharashtra, North East-I, Orissa, Punjab, Rajasthan, Uttaranchal, UP (East) and UP (West).

[†] Chhattisgarh, Kerala, Maharashtra, Orissa, Rajasthan and UP (West)

1.10.2 Non-provision of sites, towers and power supply in time

Sites, towers and power supply were not provided in time in a number of cases which led to delay in installation and commissioning of Base Transceiver Stations (BTSs)[‡] in some of the circles as discussed below:

- Delays of two to 10 months in completion of civil works and other infrastructure for installation of 70 BTSs in Uttar Pradesh (East) Circle, led to delay of around 12 months in commissioning of CMTS under phase-I of the IMPCS project in this Circle.
- Delays of two to 13 months in acquisition of 129 sites in five SSAs (Meerut, Moradabad, Agra, Rampur and Etawah) of the Uttar Pradesh (West) Circle, led to further delays in commissioning of CMTS in these SSAs under phase-IV of the IMPCS project.
- Delays of six to 14 months in making adequate arrangements for power supply, led to delays in installation and commissioning of 89 BTSs under phases-IV, IV⁺ and IV⁺⁺ of the IMPCS project in the Himachal Pradesh Circle (8 BTSs), Punjab Circle (2 BTSs) Uttaranchal Circle (41 BTSs) and Uttar Pradesh (West) Circle (38 BTS).
- Delays of two to 12 months in completion of 15 tower foundations and delays of one to 24 months in erection of 35 towers, led to further delays in commissioning of CMTS equipments under phases-III, III⁺ and IV of the IMPCS project in the Rajasthan Circle.

1.10.3 Delays in handing over of sites to the vendors

As per special conditions of the tender documents and the purchase orders placed for procurement of CMTS equipment, it was obligatory on the part of the concerned circles to hand over the sites to the vendors within six weeks of the date of issue of purchase orders so as to ensure commissioning of the equipment within the prescribed period.

A test check of records of nine circles^{*} and Calcutta Telephones District showed that during phases-I to IV⁺⁺ of the IMPCS project, handing over of 3,070 CMTS sites to the vendors was delayed by one month to 20 months by these units as detailed in Appendix-II. This further delayed commissioning of CMTS equipment by the vendors, which resulted in potential loss of revenue to BSNL. The local management of these Circles/District attributed delays in handing over of sites to delayed acquisition of sites, radio frequency surveys, etc.

[‡] BTS is a fixed tower and it functions as a radio repeater as well as a mobile interface and communicates with mobile stations (i.e. mobile handsets with the customers)

^{*} Bihar, Himachal Pradesh, J&K, Jharkhand, Kerala, Madhya Pradesh, Orissa, Punjab and Rajasthan

1.10.4 Installation of BTSs on selected sites without obtaining permission from local authorities

Telecom operators have to seek prior permission from local authorities for installation of BTSs on the selected sites. For granting this permission, local authorities also levy permission charges on the telecom operators. A review of the relevant records in various circles revealed the following irregularities:

- Bhubaneswar Municipal Corporation raised a claim on the Orissa Circle in August 2005 to pay license fee at the rate of Rs 10000 per tower. They also objected that the Orissa Circle had not intimated to the local authority about the details of towers erected at various sites under their jurisdiction. Berhampur Development Authority (BDA) issued notice in July 2005 that the Orissa Circle had installed high rise towers within BDA jurisdiction without obtaining mandatory permission for utilization of towers as required under Orissa Development Act 1982. However, the Orissa Circle had made no payment to these local authorities as of July 2006.
- For installation of 72 BTS sites pertaining to phases-I to III of IMPCS project, prior permission from the Kolkata Municipal Corporation was not obtained by the Calcutta Telephones District. The Kolkata Municipal Corporation issued (May 2006) instructions that the sites where the Calcutta Telephones District had already completed construction would be regularized on depositing of five times of the existing permission charges of Rupees one lakh per site. Hence, Calcutta Telephones District had become liable to pay an additional amount of permission charges of Rs 2.88 crore for these 72 sites, which could have been avoided had the District taken timely action for obtaining prior permission from the Kolkata Municipal Corporation for these sites.

RECOMMENDATIONS:

BSNL should:

- **prescribe in advance the time schedule for the various activities to be undertaken by the circles for creation of infrastructure and handing over the sites to the vendors for installation and commissioning of CMTS equipment.**
- **devise a monitoring mechanism for ensuring timely receipt of clearances for sites from SACFA and obtaining of prior permission from the local authorities for installation of CMTS equipment.**

1.11 PROCUREMENT

For finalisation and issue of tenders and placement of purchase orders for procurement of CMTS equipment under the IMPCS project, BSNL divided its

circles into four zones, viz., North, South, East and West and appointed Haryana Circle as the nodal office for the North Zone, Kerala Circle for the South Zone, Bihar Circle for the East Zone and Maharashtra Circle for the West Zone for carrying out these activities.

As mentioned in the earlier paragraph 8, a total of 297.46 lakh lines of CMTS systems valued at Rs 10758.63 crore was procured by BSNL during 2001-02 to 2005-06 under phases-I to IV⁺⁺ of the IMPCS project and further procurement of 635 lakh lines of the systems under phase-V of the project was under finalisation as of September 2006 as detailed below:

Phase	CMTS System ordered for procurement (in lakh lines)	Total value (Rs in crore)	Present status
Phase I & II	40.13	2421.86	Commissioned
Phase II+	7.76	236.81	Commissioned
Phase III	20.88	995.00	Commissioned
Phase III+	10.68	445.00	Commissioned
Phase IV	152.01	4927.44	Under commissioning
Phase IV+	20.00	288.10	Commissioned
Phase IV ⁺⁺	46.00	1444.42	Under Commissioning in North Zone and under ordering in West Zone
Total (Phase I to IV)	297.46	10758.63	
Phase V	635 lakh lines to be procured	21590 (Estimated cost)	Tender for 455 lakh had been issued in March 2006, which was under finalization as of September 2006. Balance of 180 lakh lines reserved for procurement from ITI under the quota reserved for this PSU.

Besides, 361 lakh SIM cards valued at Rs 234.02 crore were also procured from different suppliers during March 2004 to October 2005.

Audit noticed various deficiencies in procurement of CMTS systems and SIM cards, which are discussed in the succeeding paragraphs.

1.11.1 Avoidable expenditure of Rs 3.32 crore on expansion of Intelligent Network in East Zone

In order to avoid congestion in the network, the corporate office authorised expansion of existing CMTS network by 6.23 lakh lines under phase-IV⁺ in the East Zone without expansion of the existing Intelligent Network (IN) system meant for the pre-paid connections. Accordingly, all circles under East Zone placed purchase orders valued at Rs 90.92 crore against the overall sanctioned amount of Rs 97.16 crore, leaving unutilised an amount of Rs 6.24 crore. In order to utilise this amount, the West Bengal Circle proposed (May 2005) to the

corporate office that the existing IN system in the East Zone be expanded by five to 10 lakh lines. The corporate office approved (July 2005) the expansion of the IN system by five lakh lines for which purchase order was placed on Ericsson in August 2005 by the West Bengal Circle for a total value of Rs 3.32 crore.

Audit noticed that while finalising the above procurement of five lakh lines for the expansion of the IN system, neither the West Bengal Circle nor the corporate office considered the purchase order already placed on Nortel in September 2004 (under phase-IV) for 20 lakh line IN system for East Zone, the supplies against which had not been received. When Nortel failed to supply 20 lakh lines IN system, the corporate office authorized (September 2005) the West Bengal Circle to place another purchase order on Ericsson for the above IN system of 20 lakh lines, which the West Bengal Circle did and the supplies were received (November 2005 to January 2006).

However, at this time also both the West Bengal Circle and the corporate office did not realize that with both the purchase orders (for five lakh lines in August 2005 and 20 lakh lines in September 2005) placed on Ericsson, the total capacity of the IN system in the East Zone would increase to 45 lakh lines for pre-paid connections for which there was no demand.

Audit noticed that the expansion in the IN system in the East Zone had augmented the existing IN capacity of 20 lakh lines to 45 lakh lines, whereas at the end of May 2006, the total pre-paid customer base of the East Zone was only 26.60 lakh. The Management could have either withdrawn the purchase order for five lakh lines placed on Ericsson in August 2005 or at least amended the purchase order of 20 lakh lines placed on Ericsson in September 2005 to 15 lakh lines to avoid unnecessary capacity expansion.

The failure to take timely corrective action by the Management resulted in avoidable expenditure of Rs 3.32 crore on expansion of the IN system by five lakh lines.

1.11.2 Non-obtaining of additional performance bank guarantees

As per the terms and conditions of the purchase orders issued for procurement of CMTS equipment, in case of delay in execution of the orders by the suppliers, BSNL at its discretion could give extension upto 20 weeks subject to furnishing of additional performance bank guarantees (PBGs) by the suppliers to the extent of five *per cent* of the total value of the concerned purchase orders.

A test check of the records in the Assam and West Bengal circles revealed that the required additional PBGs amounting to Rs 8.25 crore were not obtained from the suppliers by these circles despite delays in commissioning of the CMTS system

equipment under phases-I to III of the IMPCS project ranging from 3 weeks to 29 weeks as detailed in Appendix-III.

It was further noticed that in January 2006, the corporate office waived the condition regarding additional PBGs from the suppliers in case of delays in commissioning of the CMTS system equipment under phase-IV of the IMPCS project on the grounds of availability of initial PBGs against the purchase orders and the fact that full payments had not been released to the suppliers. This decision of the corporate office not only contravened the terms and conditions of the purchase orders but also resulted in extending undue benefit to the suppliers concerned to the extent of Rs 19.59 crore by the Assam, Bihar, Madhya Pradesh and Uttar Pradesh (West) circles in the form of not obtaining the additional PBGs despite delays ranging from 13 weeks to 55 weeks in commissioning of the CMTS system equipment under phases-IV to IV++ of the IMPCS project as detailed in Appendix-III.

1.11.3 Non-recovery of liquidated damages

As per the terms and conditions of the purchase orders issued for procurement of CMTS equipment under phases-I to IV of the IMPCS project, in case of delays in delivery, installation and commissioning of the system equipment by the suppliers, BSNL was entitled to recover liquidated damages at the rate of 0.5 *per cent* of the value of purchase order for each week of delay or part thereof for a period upto 10 weeks and thereafter, at the rate of 0.7 *per cent* of the total value of the purchase order for each week or part thereof for another 10 weeks of delay.

In January 2006, the corporate office permitted the heads of circles to allow additional 20 weeks of extension in commissioning of the CMTS system equipment under phase-IV of the IMPCS project beyond the initial 20 weeks with levy of additional liquidated damages at the rate of 0.7 *per cent* of the total value of the purchase order per week or part thereof.

During the test check in 12 circles^Ψ, it was noticed that there were delays ranging from three weeks to more than two years in commissioning of the CMTS systems equipment under phases-I to IV of the IMPCS project but the related liquidated damages amounting to Rs 273.68 crore for these delays were not recovered from the suppliers concerned by these circles as detailed in Appendix-IV. Besides, these delays had also resulted in the loss of potential customer base in the present competitive scenario with consequential loss of revenue to BSNL.

^Ψ Assam, Chhattisgarh, Haryana, J&K, Karnataka, Kerala, Maharashtra, Orissa, Rajasthan, Uttar Pradesh (East), Uttar Pradesh (West) and West Bengal

1.11.4 Non-recovery of excess payments to suppliers

As per the terms and conditions of purchase orders placed on provisional price basis during 2002-04 on the existing suppliers for the procurement of additional CMTS systems (25 per cent of quantities procured under phase II) under phase II⁺ of the IMPCS project, the payments were to be released as under:

- 30 per cent on the supply of all indigenous and imported system equipment in satisfactory condition.
- 50 per cent on successful acceptance, installation and commissioning of all indigenous and imported system equipment
- 20 per cent after one year of successful commissioning of the entire equipment or 80 per cent loading of the equipment supplied, whichever was earlier.

However, anticipating around 35 per cent downward trend in the prices of CMTS system equipment, the corporate office directed (November 2004) all circles that payment proposed to be released to the suppliers against the above purchase orders for phase II⁺ should provisionally be restricted to 65 per cent of the total cost. It was also directed that any payment over and above 65 per cent, if already made, should be recovered from these suppliers while making payments to them for CMTS system equipment to be procured under phase III and phase III⁺ of the IMPCS project.

It was noticed in audit that during April 2004 to December 2004, the Andhra Pradesh, Orissa and Uttar Pradesh (West) circles made excess payments aggregating Rs 29.92 crore to the suppliers for the CMTS systems procured from them under phase-II⁺. However, these excess payments were not recovered from the concerned suppliers while releasing payments to them for the CMTS systems subsequently procured for phases-III and III⁺ of the IMPCS project. The delay in recovery of the above amount of Rs 29.92 crore resulted in cash flow problems and avoidable interest charges on borrowed money.

1.11.5 Irregular expenditure on civil & electrical works

As per the terms and conditions of the purchase orders for procurement of CMTS equipments, civil & electrical works relating to towers/poles/foundations, supporting structure, antenna mounting structure, etc were the responsibility of the concerned suppliers for which no separate charges were payable to them.

It was noticed in audit that in violation of the above terms and conditions of the purchase orders, the Madhya Pradesh Circle (in Gwalior & Hoshangabad SSAs) and the Chhattisgarh Circle (in Raipur, Durg, Ambikapur, Jagadalpur and Bilaspur SSAs) spent Rs 31.49 lakh and Rs 57.97 lakh on such civil & electrical

works. However, these circles had so far not taken any action to recover the above amounts from the suppliers concerned (July 2006).

1.11.6 Excess expenditure on procurement of SIM cards at higher rate

The Gujarat Circle placed (January 2003) a purchase order on ITI, Bangalore for supply of SIM cards for 1.78 lakh pre-paid connections and 1.56 lakh post-paid connections at the rate of Rs 153.59 per SIM card. These quantities of SIM cards were revised (February 2003) to 1.31 lakh cards for pre paid connections and 1.53 lakh cards for post paid connections.

It was noticed from the records of the Gujarat Circle that before placement of the above purchase order, Palakkad unit of ITI had offered (January 2003) to supply the above SIM cards at the rate of Rs 120 per card. However, this offer was not considered by the Gujarat Circle and the order was placed on ITI, Bangalore at a price which was higher by Rs 33.59 per SIM card and which resulted in excess expenditure of Rs 95.34 lakh.

On this being pointed out by Audit, the local management while confirming the facts stated that based on the authorization received from the corporate office, this procurement was done on an urgent basis. The reply did not reflect the correct position as the lower rate offered by Palakkad unit of ITI was known to the local management before placement of the purchase order in January 2003.

1.11.7 Irregular reimbursement of excise duty

As per instructions contained in the Procurement Manual and the terms and conditions of the purchase orders, the vendors were required to furnish the proof of actual payment of excise duty/octroi (such as excise gate pass/ excise invoice/ octroi/entry tax challans, etc) to the paying authorities concerned for claiming the refund thereof. However, in the Maharashtra circle it was noticed that an amount of Rs 88.18 lakh was paid to ITI towards refund of excise duty based on the excise invoice prepared by ITI itself. The payment towards excise duty should have been made to ITI on production of proof of actual payment duly acknowledged by the Excise Department as stipulated in the instructions/terms and conditions cited above.

On this being pointed out, the local management stated that the payment was released based on the excise invoice copy received from ITI. It was further stated that the proof of actual payment of excise duty had been called for from ITI.

1.11.8 Loss of potential revenue due to non availability of recharge coupons/top up cards

- With effect from July 2005, BSNL launched a new range of recharge coupons in the name of 'top up' cards valued at Rs 200 and

Rs 500 per card with full talk value to facilitate those pre-paid customers who had already exhausted the talk value of their existing recharge coupons but the coupons' validity was still there. 'Top up' cards valued at Rs 50 and Rs 100 per card were also launched with effect from December 2005.

It was noticed in audit that there was acute shortage of 'top up' cards in the Uttar Pradesh (West) Circle during May –June 2006. The stock position of 'top up' cards valued at Rs 50 per card remained 'Nil' during the period from 9 May 2006 to 12 June 2006 in the Circle Telecom Store Depot (CTSD) where such cards were received for distribution to all the SSAs of the Circle. Similarly, only two thousand 'top up' cards valued at Rs 100 per card were in stock from 12 May 2006 to 12 June 2006 (against the average consumption of 3731 cards per day) and during this period no cards were issued from the CTSD to any SSA for sale. Due to non-availability of these cards, the Circle suffered a loss of potential revenue* of the order of Rs 2.17 crore.

The supply of recharge coupons valued at Rs 300 per coupon was also not sufficient which was evident from the facts that no cards were issued from CTSD to any SSA for sale during the period 26 May 2006 to 6 June 2006. The loss of potential revenue* to the Circle due to non-availability of such recharge coupons for sale to the customers worked out to Rs 2.75 crore.

Thus, due to non-availability of 'top up' cards and recharge coupons, BSNL not only suffered loss of potential revenue of Rs 4.92 crore but this had also resulted in customer dissatisfaction.

The main reasons for above shortage of cards/coupons were delays in supply by the vendors concerned and non-fixation of minimum & maximum stock levels by the Circle to ensure timely decision for ordering for the same.

- During review of records relating to demand for recharge coupons/top up cards made by franchisees and supply made to them in Etawah SSA under the Uttar Pradesh (West) Circle, it was noticed that the demanded quantity of recharge coupons/top up cards were not supplied to the franchisees during the period from 13 April 2006 to 19 August 2006. The value of short supply of recharge coupons/top up cards worked out to Rs 4.21 crore. On this being pointed out by Audit, SSA authorities replied (August 2006) that due to non-supply of sufficient number of recharge coupons/top up cards by the Circle office, the demanded quantity of recharge coupons/top up cards were not issued to the franchisees. Thus short supply of recharge coupons/top up cards to the franchisees resulted

* Computation based on consumption pattern

in a loss of potential revenue of Rs 4.21 crore to BSNL during the period from 13 April 2006 to 19 August 2006.

In their reply, the Circle management stated (August 2006) that the supply of recharge coupons/top up cards made by the vendors was very irregular. It was further stated that the corporate office had been requested to allow multiple options like electronic recharge, distribution through Compact Disc, etc to improve the situation.

1.11.9 Loss of potential revenue due to delay in expansion of network in West Zone

BSNL Board in May/July 2003 decided upon further expansion of CMTS capacity in the West Zone under phase-III of the IMPCS project. This capacity expansion work was to be done by ITI with support from Lucent. The demand projections and allotments of CMTS systems made to different circles under West zone for phase-III were as under:

Circle	Demand projected (in lakh lines)	Capacity allotted (in lakh lines)
Gujarat	2.86	1.65
Madhya Pradesh (including Chhattisgarh)	0.31	0.55
Maharashtra	2.08	2.17
Total	5.25	4.37

It was noticed in audit that the above demand projections were based on the demand for the five months from November 2003 to March 2004. But due to discontinuance of support by Lucent, ITI could not continue the expansion work in the West Zone under phase-III. Thus, the CMTS capacity in the West Zone could not be increased for 15 months from November 2003 to January 2005. Consequently, BSNL not only failed to meet the growing demand for CMTS connections in the West Zone but also lost the opportunity to earn the potential revenue* of Rs 265.60 crore (approx).

RECOMMENDATIONS

BSNL should:

- **insist on proper performance bank guarantees from suppliers to safeguard its financial interest.**
- **monitor the compliance of the terms and conditions of the purchase orders by its circles to avoid financial losses.**
- **ensure timely supply of equipment and accessories like top-up cards.**

* Based on average revenue per CMTS line actually earned by BSNL during 2003-05

1.12 OPERATIONAL PERFORMANCE

In order to ensure optimal operational performance of CMTS equipment, it was imperative that their equipped capacity was optimally utilised, operational targets for release of connections were achieved, maintenance of system equipment was properly done, prescribed benchmarks for the quality of service were adhered to and adequate marketing support was provided.

The deficiencies noticed in capacity utilisation, achievement of operational targets, maintenance of the system equipment, quality of service and marketing of CMTS are discussed in the succeeding paragraphs.

1.12.1 Non-achievement of optimal capacity utilisation

The status of CMTS installed capacity vis-a-vis actual utilisation in BSNL as at the end of each of the last four years upto 2005-06 was as under:

As at the end of year	Installed capacity (in lakh lines)	Capacity utilisation (in lakh lines)	Percentage of capacity utilisation
2002-03	26.90	22.56	83.87
2003-04	48.61	52.54	108.08
2004-05	94.92	94.47	99.53
2005-06	193.53	171.64	88.69

As could be seen from the above table, the percentage of capacity utilisation (i.e. the customer base) had gradually decreased from 108.08 in 2003-04 to 88.69 in 2005-06.

On analyzing the zone-wise and circle-wise capacity utilization at the end of March 2006, Audit observed the following:

- The capacity utilisation in the West zone was 113.02 *per cent*, which was much better than BSNL's overall capacity utilisation of 88.69 *per cent*. However in the East, South and North zones, it was 82.23 *per cent*, 85.55 *per cent* and 87.72 *per cent* respectively, which was below the BSNL's overall capacity utilisation of 88.69 *per cent*.
- The capacity utilisation in 12 circles* and both the telephone districts (Chennai and Calcutta) at the end of March 2006 ranged between 61.99 *per cent* (North East-I Circle) and 88.67 *per cent* (Uttaranchal Circle), which was below the BSNL's overall capacity utilisation of 88.69 *per cent*. However, the capacity utilisation in the

* Andhra Pradesh, Bihar, Haryana, Himachal Pradesh, North East-I, North East-II, Orissa, Punjab, Tamil Nadu, Uttar Pradesh (West), Uttaranchal and West Bengal

remaining 12 circles[¶] ranged between 91.02 *per cent* (Karnataka Circle) and 138.97 *per cent* (Madhya Pradesh Circle), which was above the BSNL's overall capacity utilisation of 88.69 *per cent*.

It was further noticed that the capacity utilisation in all the four circles (Maharashtra, Gujarat, Madhya Pradesh and Chhattisgarh) located in the West zone and the Kerala Circle in South zone and Jammu and Kashmir Circle in North zone was above 100 *per cent* of the system capacities installed in these circles. This was indicative of stretching the system capacities beyond their limits, which could result in network congestion and system failures leading to customer dissatisfaction. Similarly, the capacity utilisation below the BSNL's overall capacity utilisation in case of 12 circles and both the telephone districts was indicative of the need for improved capacity planning.

1.12.2 Non-achievement of operational targets for release of CMTS connections

Audit noticed that the Tenth Five Year Plan target for providing of 223.84 lakh CMTS connections by BSNL during the period 2002-07 was much less compared to the operational target fixed by BSNL for providing of 329 lakh connections during the four-year period 2002-06. However, against these targets, the actual capacity installed and connections provided to the customers by BSNL upto March 2006 were only 193.53 lakh lines and 171.64 lakh connections respectively.

The status of BSNL's achievement of its own annual operational targets for release of connections for the last four years upto 2005-06 was as under:

Year	Target	Connections released during the year	Percentage of achievement
		(in lakh lines)	
2002-03 [#]	24.00	22.39	93.29
2003-04	30.00	29.98	99.93
2004-05	70.00	41.93	59.90
2005-06	205.00	77.16	37.64
Total	329.00	171.46	52.12

As could be seen from the above table, BSNL had not been able to achieve the targets for release of CMTS connections during the period 2002-06. The overall achievement of the cumulative targets for these four years was only 52.12 *per cent*. Moreover, there had been a downward trend in achievement of targets during 2004-05 and 2005-06 as the achievement had declined by 40.03 *per cent* in 2004-05 and by 22.26 *per cent* in 2005-06 compared to the preceding years.

[¶] Andaman & Nicobar islands, Assam, Chhattisgarh, Gujarat, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh (East)

[#] As on 31 March 2002, CMTS connections released to the customers were 0.18 lakh

On analyzing the year-wise and circle-wise achievement of annual targets for the years 2002-03 to 2005-06, Audit observed that many circles failed to achieve the targets as detailed below:

Year	Targets for release of connections not achieved by
2002-03	Seven circles ^ψ and both the telephones districts
2003-04	Eight circles [£] and Calcutta telephones district
2004-05	20 circles [¥] and Calcutta telephones district
2005-06	22 circles [▲] and both the telephones districts

The Punjab and Madhya Pradesh circles had not been able to achieve the targets in any of the years during 2002-06.

Non-achievement of targets for the years 2004-05 and 2005-06 by a large number of circles was indicative of fixation of too optimistic targets for both these years. The other reason for non-achievement of the annual targets for release of CMTS connections was inadequate capacity. The installed capacity as at the end of 2005-06 was only 191.53 lakh lines which was only 58.22 per cent of the cumulative target of 329 lakh lines.

1.12.3 Slow growth in the CMTS customer base

A review of the records of the corporate office pertaining to surrender of CMTS connections by the customers and disconnections done by BSNL due to non-payment of dues (DNP) by the customers revealed that the total number of customers as of 31 March 2006 and 31 July 2006 was 171.02 lakh (post-paid: 37.66 lakh, pre-paid: 133.36 lakh) and 186.31 lakh (post-paid: 35.09 lakh, pre-paid: 151.22 lakh) respectively. However, as per the circle-wise MIS records maintained at the corporate office, the total CMTS customer base of BSNL as of 31 March 2006 and 31 July 2006 was 171.64 lakh and 187.03 lakh respectively. Audit observed that there was a difference of 0.62 lakh and 0.72 lakh in the CMTS customer base of BSNL as of 31 March 2006 and 31 July 2006 as per above two sets of records, which had not been reconciled.

It was further noticed that a total of 51.47 lakh CMTS connections (post-paid: 16.41 lakh, pre paid: 35.06 lakh) were closed since launching of CMTS during October 2002 to March 2006 in all 24 circles^β and two telephone districts due to surrender by the customers and disconnections done by BSNL due to non-payment of dues by the customers. The closure of CMTS connections increased to 71.70 lakh (post-paid: 21.27 lakh, pre-paid: 50.43 lakh) as of July 2006 in all 24 circles^δ and two telephone districts.

^ψ Andhra Pradesh, Bihar, Madhya Pradesh, Punjab, Tamil Nadu, Uttar Pradesh (East) and Uttaranchal

[£] Assam, Chhattisgarh, Gujarat, Karnataka, Kerala, Madhya Pradesh, North East-I and Punjab

[¥] Except Jammu & Kashmir, Karnataka, Kerala and Tamil Nadu

[▲] Except Andaman & Nicobar island and Jammu & Kashmir

^β Except Assam Circle (post-paid) and Chhattisgarh Circle (pre-paid)

^δ Except Assam Circle (post-paid) and Chhattisgarh Circle (pre-paid)

During the period of four months from April 2006 to July 2006, 20.23 lakh CMTS connections were closed against the net growth in customer base by 15.28 lakh during this period.

Separate details of surrender of connections by the customers and reasons for their surrender and the disconnections done by BSNL due to non-payment of dues by the customers were not available in the records. Audit noticed that poor network coverage, poor quality of service and inadequate customer care, as discussed in succeeding paragraphs, were the main reasons for surrender of CMTS connections by the customers.

1.12.4 Non-achievement of the optimal operational performance of CMTS systems

The optimal operational performance of CMTS depended upon good network coverage and uninterrupted functioning of the system equipment. To ensure this, CMTS equipment should have been constantly covered either by warranty or by annual maintenance contracts (AMCs).

The deficiencies noticed in the execution of the terms and conditions of warranty and the execution of AMCs were as under:

1.12.4.1 Delays in entering into Annual Maintenance Contracts

As per the provisions contained in the purchase orders for procurement of CMTS systems under phases I and II of the IMPCS project, Annual Maintenance Contracts (AMCs) were to be entered into with the vendors by the concerned circles immediately after the expiry of the warranty period. It was noticed in 10 circles^λ and the Calcutta Telephones District that the signing of the AMCs was delayed between 67 days and 481 days from their due dates but these AMCs were made effective retrospectively from the due dates and even payments for AMC charges of Rs 17.98 crore were also made to the vendors by these circles (except Karnataka and North East-I circles) from the due dates as detailed in Appendix-V. However, as AMCs were signed after due dates, no payment of AMC charges for the period of delay should have been made. Hence, besides delaying signing of AMCs, undue benefit to the extent of Rs 17.98 crore was extended to the vendors by these circles.

1.12.4.2 Non-levy and non-recovery of penalty

As per the terms and conditions of the AMC, the original defective components/sub-systems were to be replaced/rectified by the vendor within 21 days of reporting of the same to him. In case of delay beyond 21 days, the vendor was to be charged penalty at the rate of Rs 2000 per day for 30 days and at the rate of Rs 5000 per day thereafter.

^λ Andhra Pradesh, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, North East-I, Orissa and Rajasthan.

Any fault affecting quality of service/availability of services of 5 per cent of the links/customers was to be treated as a major fault. All such faults were to be rectified by the vendor within three hours of their reporting to them. Any fault affecting the quality of service/availability of less than 5 per cent of the links/customers was to be treated as a minor fault. All minor faults were to be rectified by the vendor within six hours of their reporting to him.

In case the vendor failed to rectify major/minor faults within the stipulated period, he was liable to pay penalty at the rate of Rs 5,000/- per hour for major fault and Rs 2,500/- per hour for minor fault for the entire period of breakdown including Saturdays, Sundays and Holidays.

Audit noticed that despite delays ranging from 18 hours to more than 18 months in rectification of faults of the CMTS system equipment during the AMC periods by the vendors, penalty of Rs 26.98 crore was not recovered from them by the Bihar, Gujarat, Jharkhand, Orissa, Punjab and Uttar Pradesh (West) circles and the amount of penalty to be recovered from the vendors was not even worked out by the Tamil Nadu and Maharashtra circles as detailed in Appendix-VI. This amounted to extending of undue benefits to the vendors. The local management of Gujarat, Punjab, Bihar, Jharkhand, Uttar Pradesh (West) and Tamil Nadu circles while accepting the audit comment stated that it would take appropriate action.

1.12.4.3 Non-rectification of faults of CMTS system within the warranty period

As per the terms and conditions of the purchase orders, the warranty of stores/equipment supplied was for minimum of 12 months from the date of commissioning of the complete network in the circle. During the warranty period, the supplier was to perform all the functions as prescribed for the AMC period, free of cost. The penalty provisions prescribed for AMC period were also applicable during the period of warranty in case of failure on the part of the supplier.

A test check in audit revealed that the suppliers did not rectify the faults in the CMTS system equipment timely and did not attend to the problems relating to faulty cards, power plants, BTS, battery sets and poor network coverage, etc during the warranty period in the Bihar, Madhya Pradesh, Maharashtra and Uttar Pradesh (East) circles. It was further noticed that despite failure of the suppliers to rectify the faults during the warranty period, the Madhya Pradesh Circle did not recover the penalty of Rs 1.37 crore from the concerned supplier whereas the Bihar and Maharashtra circles did not even workout the amount of penalty to be recovered from the suppliers. Though the Uttar Pradesh (East) Circle withheld release of payment of Rs 3.75 crore due to the supplier concerned, no action was taken to recover the penalty so far.

1.12.5 Non recovery of the loss incurred due to frauds committed by the customers booked through franchisees

As per the agreements, the franchisees were required to indemnify BSNL against all types of embezzlement, misappropriation or misapplication of money. Further, the franchisees were to fully indemnify BSNL against all losses, claims for damages or any other claims of whatsoever nature, which were brought against BSNL by any third party owing to any action attributable to the dealers. Such losses were to be recovered from the dealers in addition to encashment of their performance bank guarantees.

In the Gujarat Circle, Audit noticed that the agreements of nine franchisees were terminated and their performance bank guarantees amounting to Rs 45 lakh were adjusted against the amount of Rs 6.10 crore outstanding from the defaulting customers, who were booked through these franchisees. However, the remaining outstanding amount of Rs 5.65 crore was not recovered from these franchisees, which was against the terms and conditions of the agreements entered with them. This resulted in a loss of Rs 5.65 crore to BSNL.

1.12.6 Poor performance of customer care centres

The work of customer care is got done either through five Interactive Voice Response System (IVRS) call centres located at Ahmedabad, Bangalore, Gurgaon, Pune and Kolkata or the customers care centres located in each circle.

The examination of IVRS call centres' performance reports revealed that out of the calls made by the CMTS customers to the call centres, on an average 24 per cent (2004-05), 28 per cent (2005-06) and 40 per cent (2006-07) of the total calls terminated without being answered either due to loss of calls between the Mobile Switching Service Centres (MSCs) and the call centres or loss of calls at IVRS. The call centre-wise status of average loss of customers' calls was as under:

Call Center	Percentage of calls to the total calls not answered by the call centre		
	2004-05 (last 6 months)	2005-06 (for 12 months)	2006-07 (initial 3 months)
Ahmedabad	21	17	32
Bangalore	22	33	50
Gurgaon	21	22	44
Pune	47	58	39
Kolkata	11	10	36
Average	24	28	40

The percentage of customers' calls not answered by the call centres had shown an increasing trend, which was not a good sign as it could lead to customers' dissatisfaction which could ultimately affect the CMTS customer base of BSNL in the present competitive scenario.

1.12.7 Customers' complaints not addressed by the concerned circles

During test check of records of Gujarat, Jharkhand, Orissa, Uttar Pradesh (East) and Uttaranchal circles and the Calcutta Telephones District, it was noticed that various complaints received from the customers were not rectified in time, which resulted in customer dissatisfaction, surrender of connections, etc. These complaints pertained to issue of used/pre-activated recharge coupons, issue of blank recharge coupons without serial numbers/secret codes, shortage of scratch cards, poor network coverage, network congestion, call drops, cross connections, excess tariff, excess billing, reduced balances, non-carry forward of the existing balances, etc. However, no action was taken against the vendors/customer care centres concerned for their failure to timely rectify the above complaints.

1.12.8 Poor quality of CMTS

Quality of Service (QoS) is the main indicator of the performance of a telephone service as well as of the degree to which the service conforms to the stipulated benchmarks. The benchmarks prescribed by TRAI for the 'Quality of service performance of cellular mobile operators' were applicable to CMTS provided by BSNL. The quality of CMTS provided by BSNL was not completely satisfactory in most of the circles as there were complaints regarding poor network coverage, system failures, low signals or no signals, call dropping, not attending to the customers' complaints, etc as discussed in the preceding paragraphs.

The scrutiny of quarterly MIS reports on the quality of CMTS revealed that for varying periods ranging from 18 months to 33 months during April 2003 to June 2006, the quality of service benchmarks fixed by TRAI such as "Percentage of connections with good voice quality", 'Billing complaints/100 bills issued', 'Call success rate', and 'Accumulated down time of community isolation' were not achieved by various circles as detailed below:

- The 'Percentage of connections with good voice quality' parameter was lower than TRAI's benchmark in six circles[£] for the period ranging from 18 months to 24 months.
- The 'Billing complaints/100 bills issued' parameter was higher than TRAI's benchmark in five^{*} circles and the Calcutta Telephones District for periods ranging from 18 months to 33 months.
- The 'Call success rate' parameter was below than TRAI's benchmark in 12 circles^λ and the Calcutta Telephones District for periods ranging from 18 months to 33 months.

[£] Bihar, Himachal Pradesh, Kerala, Orissa, Punjab and Rajasthan

^{*} Bihar, Kerala, Maharashtra, Punjab and Rajasthan

^λ Bihar, Haryana, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh (East)

- The 'Accumulated down time of community isolation' parameter was higher than TRAI's benchmark in five circles^β for periods ranging from 18 months to 27 months.
- Further, the network congestion was one of the most important parameters in the quality of CMTS. TRAI, in June 2003, issued instructions to all CMTS operators to monitor values of certain parameters related to network congestion. The examination of monthly congestion reports in respect of 20^ψ circles and both the telephones districts revealed that:
 - Stand-alone Dedicated Control Channel congestion during the years 2004-05 and 2005-06 was 3.7 per cent and 1.9 per cent respectively, which was relatively higher than the benchmark of less than 1 per cent as fixed by TRAI.
 - Traffic Control Channel congestion during the years 2004-05 and 2005-06 was alarmingly high with an average of 11.2 per cent and 5.2 per cent respectively against the TRAI's benchmark of less than 2 per cent.

These congestions had not only resulted in the loss of potential revenue due to failure of the customers' calls but also in churning in the CMTS customer base of BSNL.

RECOMMENDATIONS

BSNL should:

- **prepare appropriate strategies for ensuring optimum utilisation of the equipped capacity of its CMTS systems and achievement of operational targets for release of connections.**
- **ensure timely signing of AMCs for CMTS systems.**
- **monitor the performance of the suppliers in carrying out their responsibility towards providing adequate and uninterrupted network coverage during warranty and AMCs to avoid the risk of poor quality of service.**
- **ensure proper coordination among its customer care centres and operational wings for minimising the delays in attending to customers' complaints.**
- **ensure adherence to the quality of service norms fixed by TRAI to avoid the risk of migration of customers to other operators.**

^β Kerala, Maharashtra, Orissa, Punjab and Rajasthan

^ψ Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, J&K, Karnataka, Kerala, Madhya Pradesh, Maharashtra, North East-I, North East-II, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh (East), Uttar Pradesh (West) and West Bengal

1.13 SYSTEM OF BILLING, COLLECTION AND ACCOUNTING OF CMTS REVENUE

The Billing & Customer Care Systems (B&CCS) of BSNL located at Chandigarh, Hyderabad, Kolkata, Pune and Trichy caters to the billing operations of post-paid customers of BSNL for all its circles. Management of pre-paid connections in BSNL is handled separately by Intelligent Network (IN) systems located at different SSAs in each circle.

In case of post-paid connections, the revenue billing and collection from the customers is done at the end of prescribed billing cycle. However, in case of pre-paid connections, the release of connection is done after obtaining the payment in advance and further recharge coupons are also issued after obtaining the value of the recharge coupons in advance. Collection and accounting of revenue from the pre-paid and the post-paid customers is done in the respective SSAs of the concerned circles.

Audit scrutiny revealed various inadequacies in billing, collection and accounting of CMTS revenue as discussed in the succeeding paragraphs.

1.13.1 Accumulation of revenue arrears relating to post-paid customers

The status of CMTS revenue billed, collected and outstanding for the last three years upto 2005-06 pertaining to the post-paid customers of 22 circles[¶] and both Calcutta and Chennai Telephones Districts test checked by Audit was as under:

Year	Outstanding at the beginning of the year	Billed during the year	Total revenue due for recovery (2+3)	Collected during the year	Outstanding for recovery at the end of the year (4-5)	Percentage of revenue collected to total revenue due for recovery (5/4X100)
(Rupees in crore)						
1	2	3	4	5	6	7
2003-04	40.66	1143.26	1183.92	844.88	339.05	71
2004-05	339.05	1611.75	1950.81	1536.36	414.45	79
2005-06	414.45	2099.30	2513.75	2021.67	492.08	80

As could be seen from the above table, the revenue outstanding for recovery from the post-paid customers had shown an increasing trend as it had increased from Rs 339.05 crore at the end of 2003-04 to Rs 492.08 crore at the end of 2005-06.

[¶] Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, J&K, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, North East-I, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh (East), Uttar Pradesh (West), Uttaranchal and West Bengal

The revenue collection efficiency (percentage of revenue collected during the year to the total revenue due for collection) had also improved from 71 *per cent* in 2003-04 to 80 *per cent* in 2005-06.

The circle wise* status of CMTS revenue billed, collected and outstanding for the last three years upto 2005-06 pertaining to the post-paid customers is detailed in Appendix-VII. As could be seen from the Appendix, the revenue collection efficiency of the circles had ranged between 44 *per cent* (Gujarat Circle) and 97 *per cent* (Chennai Telephones District) during 2003-04, 59 *per cent* (Punjab Circle) and 97 *per cent* (Chennai Telephones District) during 2004-05 and 62 *per cent* (Bihar and Punjab circles) and 97 *per cent* (Chennai Telephones District) during 2005-06.

1.13.2 Loss of revenue due to absconding post-paid customers

Audit observed that in 11 circles[†] and Calcutta Telephones District, as detailed in Appendix-VIII, BSNL had incurred a loss of Rs 57.11 crore due to non recovery of outstanding revenue from the post-paid customers. The chances of recovery of the amount were remote as the whereabouts of the customers concerned were not known. The above revenue had become outstanding for recovery due to delays in implementation of threshold servers for monitoring the credit limits of the customers, failure to activate auto disconnection facility in the billing system, issue of connections without verifying the particulars of the customers and failure in monitoring of recovery. The above amount of Rs 57.11 crore includes Rs 2.33 crore pertaining to 54 fake ISD cases noticed in the Rajasthan Circle during 2002-03 due to delays in implementation of threshold server, which had already been commented upon in the CAG's Report No.5 of 2005 in para No. 2.2 (page 10) Appendix-1.

1.13.3 Inadequate disaster recovery plan and access controls for billing system

The objective of preparing disaster recovery plan is to ensure that the Management is able to process, retrieve and protect the information maintained in the system in the event of an interruption or disaster leading to complete or partial loss of data and/or computer facilities. Besides, effective password management for access to the system/data is also necessary to ensure the safety, confidentiality and security of the data.

Audit noticed that no disaster recovery plan had been formulated by BSNL for its five CMTS billing centres located at Chandigarh, Hyderabad, Kolkata, Pune and Trichy. It was further noticed that there was no segregation of duties and the users' utilized common user-ID and passwords in the billing systems.

* Except Andaman & Nicobar and NE-II circles

† Andhra Pradesh, Assam, Chhattisgarh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Uttaranchal

1.13.4 Non-reconciliation of revenue in time

As per instructions issued by the corporate office in October 2002, recharge coupons were to be treated as cash for all purposes and the Accounts Officers of the concerned SSAs were responsible for reconciliation and maintaining the accounts on day to day basis. Besides, revenue collection done through different sources was also required to be reconciled regularly for accounting purposes.

A test check in audit revealed that above instructions were not followed by five circles^y due to which revenue amounting to Rs 16.28 crore remained un-reconciled for varying periods during 2002-06 on account of non-reconciliation of sale of top-up cards, recharge coupons, credit balances of customers and revenue collected through bank as detailed in Appendix-IX. Audit observed that immediate action needed to be taken to reconcile the above revenue as BSNL may incur loss to the above extent.

1.14 CONCLUSION

The Tenth Five Year Plan target for BSNL for providing CMTS connections to the customers was 223.84 lakh. Against this, BSNL fixed annual targets aggregating 329 lakh for the period 2002-06 but could install systems having equipped capacity of 193.53 lakh lines upto March 2006 and the capacity utilisation there against as of March 2006 was 171.64 lakh lines.

Further, the expansion of CMTS by additional 635 lakh lines by December 2007 under phase-V of the IMPCS project was to provide a major thrust in the customer base of BSNL, but the tender issued only in March 2006 against the Board's initial approval in January 2005, had not been finalised as of September 2006.

Deficiencies in planning, creation of infrastructure, procurement, installation and commissioning of systems and network coverage and delays in rectification of faults in the CMTS systems during AMCs and warranty were also noticed. BSNL did not achieve the quality of service benchmarks prescribed by TRAI, which had adversely affected the customer base. BSNL suffered financial losses due to inadequate customer care and deficiencies in billing and collection of revenue.

BSNL at present is a major CMTS provider in the country. Keeping in view the stiff competition from other service providers, BSNL, not only needs to strengthen and improve its planning and procurement procedures but the systems for customer care, billing and collection of revenue also need to be monitored. The quality of service needs further improvement through better network coverage and customer care to achieve the benchmark prescribed by TRAI.

^y Chhattisgarh, J&K, Maharashtra, Orissa and Uttar Pradesh (East)

CHAPTER II

Performance Audit of functioning of Telecom Factories in Bharat Sanchar Nigam Limited

HIGHLIGHTS

- During the years 2001-02 to 2005-06, the telecom factories earned profit only in 2001-02. The factories incurred losses of Rs 110 crore during 2002-03 to 2005-06.

(Paragraph 2.8.3)

- During the years 2001-02 to 2005-06, the telecom factories could not achieve the targets of production in any of the years barring 2001-02.

(Paragraph 2.8.1)

- Test checks revealed that the cost of products manufactured in the telecom factories was higher than the market rate. In respect of self supporting dropwire and straight joint closure, the user circles incurred extra expenditure of Rs 17.27 crore for procuring these two items from telecom factories during 2001-02 to 2005-06.

(Paragraph 2.8.5)

- Delays in approval and implementation of projects for production of new items resulted in failure to increase the turnover of the telecom factories. By the time production of new items like switch mode power supply power plants and patch panel antennae commenced, there was either no demand or the item had become obsolete.

(Paragraph 2.9.1)

- Failure to expand the capacity of the telecom factories in respect of repair of C-DoT and E 10B cards resulted in potential loss of Rs 28 crore on getting the work done by outside agencies at higher rates.

(Paragraph 2.9.2)

- Due to late receipt of demand from the circles, purchases worth Rs 132.59 crore had to be made for the years 2002-03 to 2005-06 in respect of products manufactured in the telecom factories.

(Paragraph 2.10.2)

- No norms were fixed for the consumption of raw materials and labour hours for production of important items such as self-supporting dropwire (SSDW) and towers.

(Paragraph 2.11.1)

- There was excess holding of stock between Rs 14.40 crore and Rs 29.19 crore during 2001-02 to 2005-06.

(Paragraph 2.12.1)

- Cost accounts were not reconciled with annual financial accounts in the telecom factories during 2001-02 to 2005-06.

(Paragraph 2.13.1)

RECOMMENDATIONS:

- Rolling strategic plans in respect of telecom factories duly approved by the Board of Directors should be in place. Milestones and quantitative targets should be fixed for production of new products.
- There should be proper coordination between the Telecom Factory cell and other wings at the Corporate office level and with the TF circles so that modernization plans and investments are not delayed.
- The Company should assign greater role to the telecom factories in repair and service support functions to the telecom circles as decided by the Management Committee in December 2002.
- The telecom factories should adhere to the supply schedule mentioned in the requisitions made by the circles to avoid cancellations of requisitions and idling of finished products.
- The Company should ensure prompt fixation of standard costs of products, especially towers and SSDW, to ensure that their manufacturing is efficient and economic.
- The telecom factory should ensure that high inventory turnover ratio is maintained, discrepancies in stocks are reconciled and prompt action is taken to dispose of unserviceable and obsolete stores.

2.1 INTRODUCTION

Bharat Sanchar Nigam Limited (BSNL) was incorporated in September 2000 as a wholly owned Central Government Company under the Companies Act, 1956. The business of providing telecommunication services in the country, entrusted to the erstwhile Department of Telecom Services (DTS) and the Department of Telecom Operations (DTO), was transferred to the newly formed company with effect from October 2000.

At the time of its formation, the Company had a base of 2.38 crore telephone lines, which increased to 5.52 crore as on 31 March 2006, including 26 lakh wireless-in-local loop (WLL) and 1.72 crore cellular mobile connections. While the WLL service commenced in January 2001, the cellular mobile telephone services (CMTS) were started in October 2002.

The telecom factories are in-house manufacturing units of the Company for supply of various line stores, cable accessories, coin box telephones, exchange equipments, towers etc. There are seven telecom factories at Alipore, Gopalpur, Kharagpur, Mumbai, Wright Town, Richhai and Bhilai*. The factories at Alipore, Gopalpur and Kharagpur are grouped under the Kolkata Telecom Factory (TF) Circle; Wright Town, Richhai and Bhilai are grouped under the Jabalpur TF Circle while Mumbai is itself a TF Circle. In addition, there are eight service support centres*. All the telecom factories put together had a turnover of Rs 290 crore for the year 2005-06 and staff strength of 4000 as of March 2006.

2.2 ORGANISATIONAL SETUP

The overall control over the operations of the telecom factories rests with the Chairman and Managing Director (CMD). At the Corporate office level, the CMD is assisted by the Director (Planning & New Services) and the Deputy Director General (Telecom Factories). At the Circle level, the CMD is assisted by the respective Chief General Managers (CGMs)/General Managers (GMs) and Deputy General Managers (DGMs). The organizational structure is given in Appendix-X.

* Alipore telecom factory was established in 1855 whereas Mumbai, Wright Town, Bhilai, Kharagpur, Gopalpur and Richhai were established in 1935, 1942, 1979, 1980, 1987 and 1988 respectively.

* Bangalore, Mumbai and Vijayawada under MUMBAI TELECOM FACTORY CIRCLE, Lucknow and Kolkata under KOLKATA TELECOM FACTORY CIRCLE and Jaipur, Jabalpur and Bhilai under JABALPUR TELECOM FACTORY CIRCLE

2.3 SCOPE OF AUDIT

The performance audit of the functioning of telecom factories in BSNL covered the overall strategy for retention and development of telecom factories in the face of changing technology, besides production planning, manufacturing, material management, costing and accounting and human resource management by the telecom factories. The relevant records pertaining to the period from 2001-02 to 2005-06 maintained at the Corporate office and all TF circles were reviewed.

2.4 AUDIT OBJECTIVES

The objectives of audit were to assess whether:

- the Company had an adequate overall strategy for development of telecom factories;
- production planning for telecom factories was being done with due regard to economy and efficiency;
- manufacturing of products in the telecom factories was economical;
- material management in the telecom factories was well organised;
- costing and accounting in the telecom factories were being done properly;

2.5 AUDIT CRITERIA

The main criteria used for audit were as follows:

- Corporate strategy for retention and development of telecom factories.
- Codal provisions for tendering and procurement.
- Operational and financial performance indicators fixed by the Company.
- Monitoring mechanism to ensure smooth and effective functioning of the telecom factories.
- Appropriate costing and accounting methodology.

2.6 AUDIT METHODOLOGY

The audit methodology involved examination of documents and discussions with the auditee to evaluate the performance of the telecom factories.

2.7 ACKNOWLEDGEMENT

For conducting Performance Audit, the audit teams visited the Corporate office and all the telecom factory circles between April and August 2006. In the course of audit a number of issues were deliberated, besides examination of records and documents. Entry and exit conferences were also held at telecom factory circle level and with the Corporate office. Audit acknowledges the cooperation and assistance extended by all the levels of management at various stages of the Performance Audit.

2.8 AUDIT FINDINGS

In the face of changing technology and growing competition, the retention of telecom factories in the corporatised environment of BSNL needed a well defined strategy and planning so that the factories could be turned into independent profit centres along with providing service support to its circles. Analysis of the performance of telecom factories during the period 2001-02 to 2005-06 showed that the Company did not take proper steps to ensure that the telecom factories utilised their resources efficiently and effectively to become profit centres.

Audit noticed shortfall in achievement of turnover targets, failure to change product range, high cost of production, incorrect price fixation of factory products and higher cost of its products compared to the market rates. To sum up, the performance of the telecom factories during the period 2001-02 to 2005-06 suffered in terms of turnover, cost of production and profitability. This was mainly due to:

- Inability of the Company to evolve an overall strategy for the telecom factories.
- Ineffective production planning.
- Uneconomical manufacturing.
- Ineffective material management leading to high costs.
- Deficient costing and accounting procedures.

These issues are discussed in the succeeding paragraphs.

2.8.1 Shortfall in achievement of turnover targets

The targets set by the Company's Corporate office and the value of goods manufactured by the telecom factories during the period 2001-02 to 2005-06 are shown in the table below.

Table 1

(Rs in crore)

Year	TF Kolkata		TF Jabalpur		TF Mumbai		Total	
	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
2001-02	76	75	78	94	76	72	230	241
2002-03	72	73	81	76	49	42	202	191
2003-04	55	61	72	66	34	30	161	157
2004-05	97	65	67	67	49	40	213	172
2005-06	142	101	110	114	62	75	314	290

As would be seen from the above table, the telecom factories could not achieve the targets of production in any of the years barring 2001-02. Moreover, the targets were reduced during the years 2002-03 and 2003-04. Even the target fixed for the year 2004-05 was less than that of 2001-02. This was mainly due to phasing out of production of conventional items pertaining to landline services such as CD cabinets, support brackets, main distribution frames, coin box telephones-95, tubes and PWERS[#] without matching increase in production of items pertaining to new technologies such as WLL, cellular mobile and value added services introduced by the Company.

2.8.2 Failure to change product range as per change in technology

Although the telecom factories introduced new products like self supporting drop wire, OFC accessories, fibre distribution management system, towers, intelligent public call office (IN PCO) etc, the scale of production could not be increased substantially. The Company did not identify the products pertaining to WLL and CMTS, which could be manufactured by telecom factories and instead procured them from the open market. Thus the Company failed to fully utilise its expansion plans in respect of WLL and CMTS in increasing the turnover of telecom factories.

As a result, the turnover of the telecom factories remained a very small percentage of the annual procurement made by the Company during the years from 2001-02 to 2005-06. While the average annual procurement of the Company during the above period was of the order of Rs 15,000 crore, the average annual turnover of the telecom factories was only Rs 210 crore, i.e. 1.4 per cent. This had an adverse effect on profitability as discussed below.

[#] Private wire exchange relay set

^{*} production of heavyweight towers used for microwave systems were replaced by production of lightweight towers used for wireless technologies

2.8.3 High cost of production and losses

The cost of production and profitability of the telecom factories during 2001-02 to 2005-06 are given in the table below.

Table 2

(Rs in crore)

Year	Sale	Raw materials consumed	Direct expenses	Administrative expenses	Net Profit/Loss
2001-02	308	116	36	75	83
2002-03	223	119	46	84	-26
2003-04	180	95	59	62	-29
2004-05	194	101	70	57	-31
2005-06	325	211	72	64	-24

As would be seen from the above table, the telecom factories earned profit only in one year, viz. 2001-02 and thereafter there were losses in all the years. The factories incurred losses of Rs 110 crore during the period 2002-06. This was mainly due to decline in sales. The reason for loss in 2005-06 in spite of increase in sales was the increase in the prices of major raw materials like iron, zinc and copper used for production of towers and self supporting dropwire (SSDW), which were the major items being produced. Expenditure on raw materials as percentage of sales increased from 37.66 in 2001-02 to 53.36 in 2002-03 and 64.92 in 2005-06. The increase in percentage of value during 2005-06 was due to change in product mix. Production of conventional items, viz. tubes, bracket channel iron, stalk telephones etc were replaced with that of self supporting dropwire and towers, which consumed high value raw materials viz. zinc, iron and copper in large quantities. The direct expenses also increased from Rs 36 crore to Rs 72 crore during the period 2001-06. This was due to increase in cash expenditure, excise duty and freight.

There was a drop in administrative expenses due to reduction in staff from 4848 to 3999 between 2001-02 and 2005-06. However, the administrative expenses ranged from 29.38 to 37.70 *per cent* during the period 2001-02 to 2005-06 and remained high as a percentage of sales.

2.8.4 Incorrect fixation of rates of factory products

Audit noticed that the above sale and profitability figures of the TFs could not be relied upon due to incorrect fixation of challaning rates[®] for each TF. Wide variation between challaning rates and cost of production was noticed. It was noticed that in Kolkata circle, the cost of production exceeded the challaned value

[®] Challaning rates are the rates fixed by the Company at which factory products are transferred to the circles.

by Rs 22.02 crore during 2003-04 (except Kharagpur factory) and Rs 8.59 crore during 2004-05, whereas in Jabalpur circle, the challaned value exceeded the cost of production by Rs 7.55 crore in 2001-02, but no detailed analysis was carried out. The wrong fixation of challaning rates was the main reason for loss suffered by Kolkata circle in 2003-04 and 2004-05 and the profit in Jabalpur circle in 2001-02.

Further, the challaning rates for similar products differed from factory to factory. The challaning rate of line jack unit (LJU) was 100 per cent higher in TF Mumbai during 2005-06 compared to TFs Alipore and Wright Town. The challaning rate of 60 M TTH tower for the year 2005-06 was higher in TF Gopalpur by 7 per cent and 14 per cent higher in TF Bhilai compared to Wright Town factory. The challaning rate of 40 M NBFL tower in TF Richhai was higher by 46 per cent compared to Wright Town TF during 2004-05. The challaning rate of SSDW was higher in TF Mumbai by 8 per cent during the year 2004-05 and by 11 per cent 2005-06 compared to Wright Town TF.

2.8.5 Cost of products of telecom factories higher than the market rates

In order to ensure financial viability of production in the telecom factories, it was necessary that cost of product manufactured by telecom factories was at least comparable with the market rates, if not less. Audit, however, noticed that the cost of similar products in open market was lower than the challaning rate of the telecom factories. A test check conducted by Audit revealed that in respect of SSDW and straight joint closure (SJC), the cost of telecom factories was higher than the market rate during 2001-02 to 2005-06. This resulted in extra expenditure to the tune of Rs 17.27 crore for the user circles in procuring the above products from telecom factories. The details are given in Appendix XI.

2.9 OVERALL STRATEGY OF THE COMPANY

Telecom sector is characterized by fast changing technology and intense competition. During the last decade, first there was a shift from pole network to underground cable network for the landline services, followed by introduction of wireless technologies such as WLL and cellular mobile. This made the task of planners extremely difficult as there was likelihood that investments made may be rendered obsolete in a short span of time. Further, intense competition made it necessary that the cost of production was kept at the minimum so that services were provided to the customers at competitive rates. It was, therefore, imperative for the Company to have a well planned strategy for the telecom factories.

2.9.1 Delay in introduction of new products

The BSNL Corporate office constituted (January 2002) a committee of officers to give recommendations on an integrated role of telecom factories in the operations

of the Company. While considering the recommendations of Working Group, the Management Committee decided (December 2002) that in respect of new products as suggested by the telecom factories and the territorial circles, individual cases would be referred to the Corporate office for examination on a case to case basis. The Corporate office constituted (April 2004) another committee of officers to suggest ways and means for effective utilization of telecom factories infrastructure including possible product lines and technology tie up. This committee recommended (July 2004) setting up of facilities for manufacture of various products such as subscriber identification module (SIM) cards, 5 pair cables, switch mode power supply (SMPS) power plants, value regulated lead acid (VRLA) batteries, thermo shrink fibre (TSF) jointing kits, 40 metre feather light (FL) towers, SSDW and short messaging service (SMS) phones.

The investments required to set up these new products were estimated to be Rs 20.41 crore and the estimated increase in turnover was Rs 148.50 crore, more than seven times of investment. All these projects required funds. Audit observed that the capital budget allotted to the factories was only Rs 5.57 crore in 2004-05 and Rs 10.6 crore in 2005-06. Moreover, the expenditure out of the capital budget was only Rs 1.80 crore in 2004-05 and Rs 1.51 crore in 2005-06.

The budget provided for procurement of plant and machinery for the telecom factories was meagre. No funds were provided in the Corporate budget or in the budget of factories for the year 2005-06 for procurement of assembly line for 5 pair cable and SIM Card manufacturing machine for which tenders had been invited by the Corporate office (MM Cell) in August and October 2005. As per the provisions of the Procurement Manual of Telecom Equipment and Stores, tenders were to be issued only after ensuring allocation of funds. The Budget Banking Finance (BBF) Cell of the Corporate office which allocates the budget intimated (July 2006) that funds could not be allotted for SIM card machine due to non availability of sanction particulars with the cell and in respect of 5 pair cable, the case was not pursued further by the TF circle Jabalpur. The reply was not acceptable as despite Board's approval in July 2004, the Telecom Factory (TF) cell functioning at the Corporate office level did not provide the sanction particulars for SIM card machine to the BBF cell and the TF Circle Jabalpur did not pursue the case of procurement of assembly line for 5 pair cable with BBF cell. Thus due to lack of coordination between BBF cell, TF cell and TF circle Jabalpur, the funds could not be allotted by the BBF cell and consequently the projects could not materialise.

Out of 18 proposals received from the telecom factories during July 2003 to August 2006, administrative approval and permission to proceed further was accorded in 14 cases; two cases were rejected and two cases were under process. Out of the 14 cases approved, only four projects viz. IN-PCO, SSDW, Jointing kits, Fibre Distribution Management System (FDMS) were implemented as of August 2006, while three projects were dropped subsequently and seven projects

were under various stages of development. The time taken in approval of cases ranged between two and eight months. The time taken in implementation of projects ranged between two and twenty four months. As the life of these products was only three to five years, delays in implementation resulted in some of the products becoming either obsolete or having no demand as discussed below.

➤ **SMPS power plants**

A project for manufacturing Switch Mode Power Supply (SMPS) power plants for fixed wireless terminal (FWT) in TF Alipore was recommended by the Management during 2001-02. However, the production could commence only during 2005-06 and by that time, the demand for this product from circles was negligible.

➤ **Patch panel antennae**

The Corporate office approved (December 2002) production of patch panel antennae (PPA) by telecom factory Mumbai. Designing of five types of PPA (three types for Cor-Dect and two types for CDMA) was entrusted (August 2003) to Indian Space Research Organisation (ISRO), Ahmedabad. ISRO submitted the designs for Technical Specification Evaluation Certificate (TSEC) in January 2005 in which some technical deficiencies were noticed. The deficiencies were rectified and the TSEC was obtained for four types of PPA in July 2005 and an amount of Rs one lakh was paid to ISRO. The approval for the fifth type of PPA which was developed by TF Mumbai was awaited (July 2006).

Management decided (July 2005) not to produce Cor-Dect type PPA as it had become obsolete and to restrict the production of CDMA type PPA to the extent of requisitions available. Meanwhile, raw materials valued at Rs 58.23 lakh had been procured (February 2005) by TF Mumbai as the production of PPA was included in the production plan of 2004-05 and 2005-06. The entire quantity of raw materials remained unutilized.

➤ **Coin box telephone 2000**

The Corporate office approved (July 2000) production of coin box telephone (CBT 2000) at TF Bhilai and a project was sanctioned by the CGM during February 2001. However, the same was cancelled during May 2002. Audit noticed that Rs 19.26 lakh was spent on the project, which proved infructuous.

Thus delays in approval and implementation of projects for production of new items resulted in failure to increase the workload of the telecom factories.

2.9.2 Non expansion of service support centres

As per the recommendations of the Working Group constituted in January 2002, besides manufacturing activities, potential of the telecom factories needed to be exploited for maintenance and service support functions for the telecom circles all

over the country. For this purpose, service support centres needed to be set up in each territorial circle as well as in other important towns. These centres were to be assigned the work of repair of C-DoT/E-10 B cards, modems, CBT-2000, PWERS, BHT and EPBT and maintenance of SMPS power plants and external plant. The existing capacity (March 2002) of repair of 30,000 cards per year was to be expanded to about 2 lakh cards per year so that the telecom factories could meet the full demand of card repair of the Company and there would be no need to engage outside agencies for this work. The Management Committee accepted (December 2002) the above recommendations with the condition that no additional capital outlay would be allowed.

It was noticed that only eight card repair centres at Lucknow, Kolkata, Bhilai, Jabalpur, Jaipur, Bangalore, Vijayawada and Mumbai were brought under the control of telecom factories as of August 2006. In respect of repair of cards, the capacity could be increased only to 60,000. During the period 2002-03 to 2005-06, the telecom factories repaired 1.59 lakh cards at a cost of Rs 8.02 crore. Audit also observed that while the average cost of repair per card by the telecom factories worked out to Rs 500, outside agencies like ITI charged above Rs 1,000. Hence the Company would have saved Rs 28 crore on repair of cards during the period 2002-03 to 2005-06 if the capacity of repair of cards of the telecom factories was enhanced as envisaged. Thus the objective of the Company in re-orienting telecom factories from manufacturing organizations to manufacturing cum service support organizations was not achieved.

2.9.3 Non-utilization of infrastructure

The Working Group constituted in January 2002, recommended that spare vacant land and covered space in the telecom factories should be intimated to the nearby territorial circles and SSAs as well as to the business development groups in the Corporate office to examine the commercial exploitation of such assets. They also stated that prima facie the spare land could be utilized for locating the Company's call centres, software development centres, Remote Switching Units (RSUs), offices etc. The committee constituted in April 2004 to suggest ways and means for effective utilization of telecom factories recommended that efforts should be made to lease out/transfer the foundry facilities at TF Kharagpur to the interested public sector undertaking (PSU) or Government departments like railways, ordinance factories etc. The foundry at TF Kharagpur had a modern foundry plant which had to be shut down due to no workload. Similar was the situation with the tube making plant at TF Wright Town, after deletion of manufacturing of tubes from the production schedule in 2005-06. The committee also recommended exploring the possibility of forming a joint venture/alliance with reputed manufacturers of code division multiplex access (CDMA) terminals.

Audit, however, observed that no action was taken in respect of utilization of spare land, building and assets. As the lease/transfer proposal could not make any progress, the Board of Directors approved (March 2006) the disposal of the plant

and machinery through tender or auction. The sale of foundry facilities at TF Kharagpur was yet to materialize as of July 2006. Similarly, no joint ventures or alliance could be set up. The Management stated (July 2006) that land and building were no longer spare due to the proposed aim of the Company to increase turnover of the factories to Rs 1,000 crore. The reply was not convincing as there was no appreciable improvement in the turnover of the factories, which was Rs 290 crore as of March 2006.

2.9.4 Delays in procurement of plant and machinery

The Planning cell of the Corporate office submitted (July 2004) a business case for setting up of manufacturing facilities of GSM SIM cards at TF Mumbai to the Investment Finance Cell (IFC) for ascertaining the financial viability of the project. The financial viability, however, could not be assessed by IFC due to non availability of actual cost data since the figures forwarded by the Planning cell were only indicative. Despite this, tenders were invited (November 2004) and purchase order for turnkey supply, installation, trial and commissioning of plant and machinery including transfer of technology for manufacturing GSM SIM cards was placed (October 2005) on ITI Limited at a cost of Rs 9.22 crore.

The delivery of the machine was extended from February 2006 to April 2006 due to deferment of the training schedule of the Company's personnel. The machine was received in April 2006 and was installed in May 2006. Production was yet to commence as of August 2006.

Audit observed delays in completion of various activities connected with the above procurement. As against 85 days provided in the Manual of telecom equipment and stores for placing the purchase order from the date of issue of tenders, 315 days were taken in this case. Thus there was delay of 230 days. The Board of Directors in the Memorandum on working of telecom factories while considering the introduction of new technology had analysed the life of the product as five years. Already two years had lapsed and further delay would result in the product becoming obsolete within three years. It was noticed that an amount of Rs 1.27 crore was paid (April 2004) as customs duty against Rs 1.12 crore due as per the purchase order, resulting in excess payment of Rs 15 lakh. The management agreed to recover the excess payment (September 2006).

RECOMMENDATIONS

- **Rolling strategic plans in respect of telecom factories duly approved by the Board of Directors should be in place. Milestones and quantitative targets should be fixed for production of new products.**
- **The Company should assign greater role to the telecom factories in repair and maintenance work as decided by the Management Committee in December 2002.**

- **There should be proper coordination between the TF cell and other wings in the Corporate office and the TF circles so that modernization plans and investments are not delayed.**
- **The Company should explore the possibilities of utilising the spare land and building in the telecom factories on priority.**

2.10 PRODUCTION PLANNING

For effective and efficient use of production facilities, formulation of realistic production plans in advance was essential. The Company revised (July 2002) the procedure for demand compilation, allocation and ordering and made the TF Cell in the Corporate office the nodal agency for framing annual production plans. This work was earlier dealt with by the CGM Telecom Stores, Kolkata. Audit observed certain deficiencies in production planning, as discussed in the succeeding paragraphs.

2.10.1 Delay in formulation of production plans

Quarterly Performance Report (QPR) meetings were to be conducted at the Corporate office level with the Chief General Managers of Telecom Factories to finalize the item-wise, circle-wise and factory-wise annual quantitative production targets for each TF. In the QPR the annual production targets of TFs were to be fixed based on the demand for items received from circles and keeping in view the production capacity of the factories.

Rules provide that the product range of all the factories was to be intimated by the Corporate office to all the circles six months prior to the commencement of the financial year for intimating their demand. Audit however noticed that the product range was intimated only in December 2002, December 2003 and November 2004 for the years 2003-04, 2004-05 and 2005-06 respectively resulting in delay in receipt of demand from circles. As a result, the annual production targets of TFs for the years 2002-03, 2003-04, 2004-05 and 2005-06 were finalized on the basis of demands received from only 14, 6, 2 and 6 circles, respectively against forty circles. Audit further noticed that as the demands were received belatedly from the circles it resulted in delays in finalizing the production plans of the factories and consequential delays in production. Due to late receipt of demand from the circles the TFs could not deliver the products in time and the circles had to resort to purchases from outside vendors, for the years 2002-03 to 2005-06 amounting to Rs 132.59 crore for products manufactured in the telecom factories.

2.10.2 Delay in production

Production planning should ensure that the supplies are made to the user circles within the scheduled delivery time. Audit noticed that TF Richhai could not supply 21,708 tubes to the West Bengal circle within the scheduled delivery time during the year 2003-04. Subsequently, West Bengal Circle refused (August

2004) to accept the material and cancelled the requisition. This resulted in idling of finished tubes of value Rs 2.06 crore with very little possibility of its future utilization in the changed technological environment.

RECOMMENDATIONS

- **Internal control system should be strengthened to ensure and enforce timely submission of demands from the circles.**
- **Annual production plan should be in place well before the commencement of the financial year.**
- **The telecom factories should adhere to the supply schedule mentioned in the requisitions made by the circles to avoid cancellations of requisitions and idling of finished products.**

2.11 MANUFACTURING

In order to ensure efficient and economic manufacturing in the telecom factories, it was imperative that:

- Standard norms for consumption of raw material, labour and overheads were fixed to exercise adequate control over expenditure on inputs.
- Adequate arrangements were made for the procurement of raw materials.
- Plant and machinery were well maintained to avoid excessive rejections.

2.11.1 Non fixation of standard costs

For every product, norms for consumption of raw materials, labour hours and machine hours should be fixed. Besides, standard hour rates were also to be fixed to determine the actual cost of labour and machine utilization for production of each product and these were to be laid down in the layout sheet (LOS) of each product. Audit noticed that no norms were fixed for the consumption of raw materials and labour hours for production of important items such as SSDW and towers (for WLL and CMTS). As a result, effective control over expenditure on inputs could not be exercised. A comparison of consumption of zinc for galvanisation of black finished products for towers in TF Richai revealed that the consumption of zinc was 1.30 Kg/sq.m during 2003-04 and the same rose to 1.50 Kg/sq.m during 2004-05. Hence the consumption of zinc was higher by 66,209 kg for galvanizing 3.70 lakh sq.m of black finished products during 2004-05. This resulted in excess expenditure on manufacture of towers to the tune of Rs 51.98 lakh.

* Kilogram per square metre

While the Assistant General Manager, TF Richhai promised to make efforts to have effective control on consumption of zinc in future, the DGM, TF Gopalpur stated (July 2006) that action for fixation of norms had been taken and was expected to be completed within a year.

2.11.2 Loss due to excess generation of scrap

Norms prescribe the quantity of scrap allowed in manufacturing of SSDW. In TFs Gopalpur and Kharagpur, excess scrap of 26, 251 kg valuing Rs 18.93 lakh was generated in the production of SSDW from 2002-03 to 2004-05.

RECOMMENDATIONS

- **The Company should ensure fixation of standard costs for products especially towers and SSDW to ensure that their manufacturing is efficient and economic.**

2.12 MATERIAL MANAGEMENT

With more new projects approved, it was necessary for telecom factories to establish a well integrated network enabling online transmission of information for proper planning of procurement, monitoring, utilization and performance of procured stores. Further, in a manufacturing organization, an effective material management would also entail well planned procurement of plant and machinery.

2.12.1 Low inventory turnover

One of the most widely followed measures for evaluating inventory performance in any organisation is to determine the "Inventory turnover Ratio". The Telecom Factories computed the Inventory Turnover Period in terms of the number of days' stock in the stores. The norm was to hold stock for a maximum of 180 days in the stores at any point of time.

Audit observed that the inventory turnover period varied from 35 to 520 days in TF Kolkata, 102 to 271 days in TF Mumbai and from 135 to 1,569 days in TF Jabalpur. The telecom factories were continuously holding excess stock, which in turn locked up funds ranging between Rs 14.40 crore and Rs 29.19 crore during 2001-02 to 2005-06.

2.12.2 Interruption in production due to non availability of raw materials

Audit observed instances where availability of raw materials was not ensured by the telecom factory management before commencing the manufacturing process. It was noticed that during 2004-05, due to non availability of 0.5 mm copper wire, the production of SSDW was stopped for four months at TF Gopalpur which also contributed to shortfall in production of 9000 kms of SSDW. Further, due to non

availability of black stores for galvanisation, the production of towers was interrupted. As a result, only 66 per cent of the production plan was achieved during 2004-05. Further only 77 per cent of the production plan in respect of Optical fibre cable (OFC) accessories viz. SJC and branch joint closure (BJC) could be achieved during 2005-06 in TF Mumbai due to delay in supply of raw materials by the vendor.

2.12.3 Piecemeal tendering for galvanisation

The total requirement of galvanization* at TF Kharagpur for production of towers was 3,000 MT during 2005-06. As the factory did not have in-house facilities for galvanization, the work was being outsourced. Audit observed that tenders for galvanization were being floated in piecemeal manner for 200 MT on each occasion. Only during December 2005, the factory management floated a tender for 3,000 MT. The tender was not approved by the Corporate office due to non fulfillment of eligibility condition by the vendor. As a result, although TF Kharagpur manufactured 3,105 MT of tower components during 2005-06, it could get only 1,078 MT galvanized. This resulted in accumulation of 2,027 MT of semi finished tower components valuing Rs 7.39 crore during the year 2005-06 and consequent non supply of 250 towers to the needy circles.

2.12.4 Discrepancy in physical verification of stock

Progressive stock verification (PSV) and independent stock verification (ISV) of the stores including unserviceable stores is required to be conducted once a year to check pilferage of stores. Shortages if any should be investigated and reconciled. Audit observed that ISV was not conducted at TF Wright Town Jabalpur up to 2003-04. Shortage of stock valuing Rs 1.71 crore was noticed during June 2004, which was irregularly adjusted by the Wright Town TF management against already closed orders.

PSV of stock of work-in-progress at TF Mumbai for the year 2003-04 revealed excess inventory of Rs 30.59 lakh, which was not reconciled till March 2006.

2.12.5 Non adjustment of advance payments

As per the instructions of the Corporate office issued in July 2004, interest at the rate of 10 per cent from the date of payment of advance to the date of supply of equipment/material if the supply was within the schedule delivery time and additional 5 per cent as penal interest if the delivery was beyond the schedule delivery period should be recovered on the advances paid to the suppliers. Further, procurement manual prescribes that any increase in taxes and other statutory duties/levies after the expiry of the delivery date shall be to the supplier's account. TF Richhai, did not recover the interest and penal interest

* Coating iron with Zinc to protect against rust

amounting to Rs 28.14 lakh on the advances made for the procurement of steel angles during 2004-05. Further, excise duty was paid at the increased revised rates during extended delivery period, which resulted in excess payment of Rs 20.16 lakh.

RECOMMENDATIONS

- **The telecom factories should ensure that high inventory turnover ratio is maintained, discrepancies in stocks are reconciled and prompt action is taken to dispose of unserviceable and obsolete stores.**

2.13 COST ACCOUNTING

Cost accounting involves cost ascertainment, cost allocation, cost control and cost reduction. Proper cost accounting acts as a tool to the management to take proper “buy or make” decisions. To ensure efficient and effective costing of products, proper maintenance of the primary records relating to consumption of raw materials, labour and various overheads, etc. is necessary so that the correct cost of a product is ascertained. In BSNL, maintenance of cost accounts has been prescribed under section 209 (1)(d) of the Companies Act, 1956 from the year 2003-04.

2.13.1 Non-maintenance of costing records

Mention has been made in paragraph 2.8.4 regarding arbitrary fixation of transfer price or challoaning rates in different factories of the Company. As a result transfer price of similar products was found to be substantially different in different factories of the Company.

Proper cost accounting records of the products were not maintained in any of the telecom factories except TF Kolkata circle which maintained such records for the years 2003-04 and 2004-05 through outsourcing. Management at TF Mumbai stated that due to vacancy in the post of Cost Accountant, records relating to cost accounts could not be maintained. No reasons for non maintenance of cost records were furnished by TF Jabalpur. The cost statements prepared by TF Kolkata were also not realistic and methods of accounting were not uniform. Further, cost accounts were not reconciled with annual financial accounts. Thus non maintenance of cost records contravened the statutory provisions.

2.13.2 Acknowledgement from user circles

Acknowledgement for the receipt of finished goods has to be received from the consignee circle based on which advice transfer debit (ATD) is raised against that circle. Audit noticed that acknowledgements for Rs 21.46 crore were not received

by TF Alipore for the finished products despatched to the circles during 2004-05 and 2005-06 and by TF Gopalpur during 2004-05. Non-receipt of acknowledgements for finished products transferred to circles, besides denoting lack of confirmation of receipt of goods by the consignee circles, resulted in non raising of ATD to the tune of Rs 21.46 crore.

RECOMMENDATIONS

- **The Company should ensure prompt receipt of acknowledgements of finished goods from the consignee circles, so that the telecom factories can raise advice transfer debits without delay and account for the transferred goods.**

2.14 CONCLUSION

During the five years up to 2005-06, the telephone services provided by the Company grew exponentially with the introduction of wireless technologies, especially cellular mobile telephone service. However, the Company was not able to exploit this opportunity to increase the scale of production in the telecom factories. Production of telecom factories still accounted for a very small proportion of the overall procurement made by the Company. The factories incurred losses of Rs.109.44 crore during the period 2002-06. The cost of production in the telecom factories of important items viz. self supporting dropwire and straight joint closure was higher than the market rate. Standard cost of production of important items such as towers and self-supporting dropwire had not been worked out as a result of which effective control over expenditure could not be exercised. There is an urgent need for the Company to increase the scale of production in the telecom factories by shifting the product range towards wireless technology. The increase in production, coupled with fixation of standard cost and efficient manufacturing would help the factories to reap the advantages of economies of scale and become profitable.

CHAPTER III

Performance Audit of Billing and Customer Care System in Mahanagar Telephone Nigam Limited

HIGHLIGHTS

- The Company procured a new Billing and Customer Care System (B&CCS) at a time when a convergent billing system was scheduled to be launched

(Paragraph 3.10)
- MTNL failed to take over B&CCS even after 18 months of its installation resulting in complete dependence on the vendor for its operations

(Paragraph 3.11.1)
- The Company did not sign any non-disclosure statement with the vendor but has given them full access to the database

(Paragraph 3.11.2)
- Customization of B&CCS was not done properly leading to problems in revenue realization

(Paragraph 3.12)
- The Company did not implement the credit control module in B&CCS resulting in accumulation of outstanding dues and possible loss of Rs 40.15 crore.

(Paragraph 3.12.1)
- B&CCS could not levy late fee/surcharge for delayed payment of GSM bills resulting in nearly 62 per cent delayed payment of bills

(Paragraph 3.12.2)
- Subscriber database in B&CCS lacked complete details of customers as required under Government orders

(Paragraph 3.13.1)
- IT related controls like exclusive security policy, Business Continuity plan and Disaster Recovery Plans were not implemented by the Company for its GSM services

(Paragraph 3.15)

RECOMMENDATIONS:

It is necessary for MTNL to:

- Fine-tune its planning of IT projects, which should invariably include proper justification and cost benefit analysis of alternative options.
- Take steps to introduce the credit control module so as to contain the piling up of outstanding revenue.
- Introduce charging of late fee/surcharge, for delay in payment of bills which would facilitate better discipline in revenue realization.
- Take steps to update the database with complete details of the subscribers.
- Enter into Non-disclosure Agreements with its vendors with a view to protecting the interests of the Company.
- Prepare 'Business Continuity Plan' and 'Disaster Recovery Plan' for early implementation.

3.1 INTRODUCTION

Mahanagar Telecom Nigam Limited (MTNL) started its Cellular Mobile Telephone Service (CMTS) with Global System for Mobile Communication (GSM) technology in the metro cities of Delhi and Mumbai in 2001. The main equipment for the CMTS service was procured from ITI Limited, and the billing and customer care system (B&CCS) was procured from M/S Tata InfoTech Limited (TIL). The B&CCS was replaced in November 2004 with a new package supplied by Motorola India Private Limited (MIPL) as a part of the turnkey project for expansion of MTNL's GSM service at Delhi and Mumbai. The B&CCS delivered by MIPL (Unicorn 6.0) was developed to run on Oracle RDBMS with Developer-2000 (for user interfaces and reports) and the Sun-Solaris Operating System. As of August 2006 the B&CCS of MTNL had 9.32 lakh and 11.91 lakh subscribers at Delhi and Mumbai respectively.

3.2 ORGANISATIONAL SETUP

The administrative and overall functional control of MTNL is vested in the Board of Directors headed by the Chairman and Managing Director (CMD) who is assisted by three functional Directors in charge of Technical, Finance and Human Resources departments and a Company Secretary. The MTNL Delhi and Mumbai are headed by Executive Directors. The Wireless services of MTNL Delhi and Mumbai are headed by Chief General Managers (WS) who supervise the

operations of the GSM services of their respective units with the help of the General Manager (Planning), the General Manager (Projects) and the General Manager (Commercial).

3.3 SCOPE OF AUDIT

MTNL introduced (December 2004) a new B&CCS procured from Motorola India Private Limited covering its Delhi and Mumbai units. Audit reviewed the planning, development and implementation of the system, and its functioning for the period from December 2004 to September 2006. Billing of service connections was excluded from the scope of audit.

3.4 AUDIT OBJECTIVES

The objectives of audit were to confirm whether:

- the planning and procurement of the billing and customer care system were proper and in line with the business needs of MTNL;
- the system was functioning efficiently and effectively to meet the objectives of billing and customer care;
- the security controls associated with the system were adequate; and whether there were adequate IT trained and skilled manpower to run the system efficiently and effectively.

3.5 AUDIT CRITERIA

The main audit criteria used were:

- Best practices regarding Information Technology (IT) system development and implementation.
- Business rules of the Company.
- Standard IT security controls.

3.6. AUDIT METHODOLOGY

The audit of the B&CCS in MTNL was based on the CoBIT^{*} framework. Audit adopted system based techniques like use of B&CCS menu facilities, SQL¹ data extraction and analysis for evaluating the performance of the billing system against the audit criteria broadly outlined above. In addition, Audit methodology involved the following:

- Understanding the billing system of MTNL.

^{*} Control Objectives for Information and related Technology –

¹ Structured Query Language

- Interaction with personnel working with B&CCS and visits to Bill Processing Centre, Call Centre, Customer Centres (Sanchar Haats).
- Identifying the risks that attached to key revenue business cycle processes* and assessing effectiveness of implementation of relevant internal controls.
- Use of live database for data extraction and scrutiny
- Confirmation of audit observations through issue of test audit memos before firming up audit conclusions.

3.7 ACKNOWLEDGEMENT

The Audit teams visited MTNL Corporate office and the mobile services' billing centres at Delhi and Mumbai. Access to the billing database, with permission to run independent audit queries on it, was provided by the Company to the Audit teams. Healthy interaction was possible with the officers at the Billing centres. Entry conferences were held at the units as well as at the corporate level and exit conferences were held at the units. Audit acknowledges the cooperation and assistance extended by all the levels of management at various stages of completion of the Audit.

3.8 FUNCTIONING OF THE B&CCS

The new B&CCS delivered by Motorola India Private Limited was intended to provide a platform for effective and accurate billing, efficient customer care services and support for decision-making required to address issues like customer satisfaction and prevention of frauds. A brief about the functioning of the system is set out below.

Front end application

The front end of the system, located at the various customer service centres of MTNL is responsible for the processing of applications for new connections/services. A customer profile is created in the B&CCS by the front end user after confirmation of the credentials of the applicant like identity proof, address etc. The customer profile thus created would include all the details of the subscriber, the Plans he has opted for, features he has availed, his billing address, his mobile number, SIM number etc. Details of calls made by subscribers are received in the billing system from the Mobile Switching Centres (MSCs) through call detail records (CDRs)^ψ.

* Processes involved from registering a customer, provision of telecom facility to issue of bills.

^ψ Call Detail Record is a record containing information about recent system usage, the duration of each call, the amount billed for each call, the total usage time in the billing period etc.

Major components of B&CCS

- The mediation device converts the incoming data formats to a compatible format for further applications. It is connected to the MSC on one side and application modules on the other side. It collects data from MSCs and processes and distributes CDRs to other application modules such as fraud management, decision support system, customer care and billing system, inter-operator administrative accounting system and data warehousing system.
- Billing and Customer Care Module, which processes the incoming CDRs from the mediation device based upon pre defined tariff structures.
- Printing sub-system, which is an intelligent module capable of printing the billing information electronically, has a direct interface with the Billing and Customer care module.

B&CCS process

The mediation device of the B&CCS system processes the CDRs and hands them over to the billing engine, where the table of tariffs resides, for their rating*. After rating, the calls are billed against respective subscribers. At the end of each billing cycle, bills are generated, printed and despatched to the post paid subscribers for payment. In the case of prepaid subscribers, the credit particulars of the subscribers i.e. the balance of credit available against the value of the recharge vouchers are stored in the Intelligent Network (IN) platform. The switching system (MSC) communicates with the IN platform and confirms the sufficiency of credit before processing calls.

For providing customer care service, MTNL has an outsourced call centre system. The call centres are established in Delhi and Mumbai for handling and redressal of customer grievances and for providing efficient billing, commercial services and inquiries. The customers' queries are entertained either through the IVRS® system or by the call centre agents. Queries are replied to, based on the database available in the call centre and complaints/requests are taken care of through coordination with the respective units.

3.9 AUDIT FINDINGS

In the highly competitive field of telecommunication, a well-organized billing and customer care function plays a very important role in business growth and ensuring efficient revenue realization. IT companies have introduced various billing and customer care solutions since the basic concepts in CDR based billing system are common for all mobile service providers. So selection of the right

* Rating – process through which CDRs are billed as per the applicable billing plans/rates.

® IVRS – Interactive Voice Response System

billing package, customizing the off-the-shelf package to suit the business needs of the user, ensuring strong controls around the system i.e. monitoring of the functions of the system and speedy and effective remedial response to customer requests are vital for supporting good business.

3.10 INJUDICIOUS PROCUREMENT OF NEW B&CCS

MTNL started their GSM mobile services in 2001 with the B&CCS procured from Tata InfoTech Limited at a cost of Rs 9.69 crore. Though the B&CCS was initially to cater to two lakh subscribers (one lakh each at Delhi and Mumbai) it was scalable (both hardware and software) to handle up to eight lakh subscribers. The Company decided (October 2002) to expand its GSM services to eight lakh lines (four lakh each at Delhi and Mumbai) and B&CCS was an optional item in the expansion project since MTNL proposed to implement a convergent billing^{*} system before the expansion. In January 2004, the turnkey project for expansion of GSM services was awarded to Motorola India Private Limited with B&CCS as one of its compulsory components.

The financial propriety of investing Rs 30 crore on a new billing system, at a time when a convergent billing system was scheduled to be launched in March 2007 should have been an important consideration for MTNL, before deciding to opt for the new B&CCS. However, no cost-benefit analysis of upscaling the earlier system vis-a vis procuring a new system was carried out. With proper planning, investment on a new billing system could have been avoided.

The Management stated that the earlier billing system supplied by M/s TIL was only for one lakh lines each at Delhi and Mumbai and was not equipped to handle additional subscribers.

The system supplied by TIL was scalable (both hardware and software) to take care of estimated future growth of eight lakh subscribers. The billing system was mainly for the post-paid subscribers, and the post paid subscribers of MTNL were only five lakh (both Delhi and Mumbai combined) up to August 2006. Hence the reply that capacity constraints of the existing system necessitated its replacement was not tenable.

3.11 ACQUISITION AND IMPLEMENTATION OF B&CCS

Implementation of an IT system should be a well- planned and systematic process with clearly set deadlines for its different stages like installation, acceptance testing and commissioning.

^{*} Convergent billing is more advanced than B&CCS. It means creating a unified view of the customer — and all services provided to that customer — for single-point customer care.

3.11.1 Delay in taking over and continued dependency on the vendor

As per conditions of purchase order the commissioning of the entire project was to be completed within 12 months from the date of issue of purchase order i.e. by January 2005. The system supplied by M/s. MIPL was launched in October 2004 and the B&CCS was put to use in November 2004 at Delhi and in January 2005 at Mumbai. An Acceptance Testing team was constituted in September 2004 to carry out the Acceptance Testing on 32 points. It was noticed that even after a lapse of eighteen months (June 2006), only seven points had been cleared by the AT team. As a result B&CCS is yet to be technically cleared and formally taken over by MTNL and the Company is still dependent on the vendor for its operations. Moreover, MTNL has not executed any escrow agreement^w with the vendor. In the absence of source-code the Company would neither be in a position to update/customize the software to suit its business requirements nor rectify any software problem in case of default by the vendor. Further, it was noticed that no database was being maintained regarding skills acquired, training imparted, experience gained etc. in respect of B&CCS staff and the B&CCS was maintained by the vendor.

3.11.2 Absence of non-disclosure agreement with the vendor

Subscriber database is the most important asset of a telecom service provider and hence maintaining its confidentiality is very important for supporting good business. The B&CCS was procured through outsourcing and is maintained by the vendor. It was noticed that the Company had not entered into any non-disclosure agreement with the vendor to safeguard its interest against any possible data leakage. The management stated that since the billing system was not yet taken over by the Company the privileged users like System Administrator, Database Administrator and Programmers were of the vendor and managed accordingly.

Thus, the Company had not been able to sufficiently safe guard its data security before implementing the system.

3.12 INADEQUATE CUSTOMIZATION OF BILLING PACKAGE

Firming up System Requirement Specification (SRS), defining User Requirements Specification (URS) and deciding on the customization required based on the URS, are crucial steps in the system development methodology of IT projects. Deficiencies in any of these steps could lead to non-fulfillment of

^w Source code escrow agreement means deposit of the source code of the software into an account held by a third party escrow agent so that the software source code is released to the licensee if the licensor files for bankruptcy or otherwise fails to maintain and update the software as promised in the software license agreement.

planned requirements. Since B&CCS was an off the shelf package supplied by MIPL, customizing it to suit the business needs and practices of MTNL, before putting it to use was very vital for ensuring its efficient functioning.

3.12.1 Non-implementation of credit control in respect of post paid subscribers

A Credit Control Module in a computerized billing system enables fixing credit limits for customers, based either on the amount of deposit received or by reviewing the usage pattern. Evaluation of the paying habits of customers and the deposits obtained from them are important parameters for fixing credit limits. As per Telecommunication Engineering Centre (TEC) approved Generic Requirement (GR*) for B&CCS for Cellular Mobile Service, the system should be capable of sending automatic deactivation command suspending the service in case the credit limit is exceeded.

Heavy outstanding dues

Audit noticed that the Company had not enabled the credit limit feature in the billing system leading to piling up of outstanding dues. The outstanding revenue of Delhi unit, as of November 2006, was Rs 41.48 crore, against 2.80 lakh subscribers. Scrutiny of these cases revealed that out of this Rs 29.37 crore (70.8 per cent) was due from 76,916 subscribers whose services had been disconnected. The corresponding figures for Mumbai were Rs 34.34 crore against 2.38 lakh subscribers and Rs 10.78 crore (31.39 per cent) against 31,801 disconnected subscribers respectively.

It was noticed that in Delhi, the maximum outstanding against a single customer was more than Rs 14 lakh (Rs 14, 37,331 against a total deposit of Rs 6,000 only) and in Mumbai it was more than Rs 3.5 lakh (Rs 3.66 lakh against a total deposit of Rs 6,000 only).

In the cases where services had been disconnected the possibility of realization of outstanding dues was remote. Thus, the Company faced the possibility of loss of Rs 40.15 crore (due from 1.08 lakh subscribers) due to its failure to activate the credit control module before putting the system to use. On this being pointed out by Audit it was replied by MTNL Mumbai that the software was being customized to suit the Company's requirements and was expected to be implemented by September 2006.

* Technical specification and standards laid for MTNL and BSNL.

Continuation of telephone facilities despite non-payment of bills

An analysis of data for the 66th bill cycle of Delhi unit (for June 2006), revealed that 165 subscribers whose outstanding bills was between Rs 10000 and Rs 20000, 46 subscribers whose unpaid amount was between Rs 20000 and Rs 50000, 21 subscribers with dues between Rs 50000 and 1 lakh and 6 subscribers with more than Rs 1 lakh were allowed to continue their telephone facilities despite their huge outstandings.

Manual barring of outgoing calls due to non-payment and non-implementation of credit control module led to piling up of outstanding revenue.

3.12.2 Non-implementation of late fee module for delayed payment of bills.

Delayed payment of telephone bills by subscribers leads to accumulation of outstanding revenue and adversely affects the cash flow of the Company. Levy of late fee/surcharge for delayed payment is intended to act as a deterrent against this. All telecom service providers in the country charge late fee/surcharge for delayed payments. However, the Company could not implement the charging of late fee in its B&CCS till date as the system was not customized for levy of late fee. A report generated from the database of the system showed that out of 32.46 lakh bills raised in Delhi and Mumbai for which payments were due for the bill cycles 61 to 66 (ie for the period January-2006 to June 2006), payments in 20.12 lakh (62 per cent) cases were received after the due date. Customization of the package to include provision for charging late fee/surcharge would have facilitated a more disciplined cash flow for the company besides earning additional revenue.

On this being pointed out by Audit the Management while accepting non-levy of late fee stated (August 2006) that the Billing system was under customization and late fee would be levied.

3.12.3 Non provision of latest facilities like hot billing , payments through credit card

In a competitive environment, it is essential that convenient facilities like hot billing, easy options of payments through credit cards, etc. are offered to the subscribers. It was noticed that the Company could not offer these facilities to its customers due to non-customization of the system. The Company could not tap the full potential of the IT asset so as to offer improved services.

Hot billing refers to a facility to provide on demand invoices. These invoices include up to date usage and non-recurring charges incurred by a subscriber within a current billing cycle.

3.13 DEFICIENCIES IN FUNCTIONING OF B&CCS

B&CCS integrates the functions of Commercial, Revenue and Customer Care onto a single platform. Accurate creation of subscriber data base, good verification procedures and sound monitoring systems are thus imperative to make optimum use of its IT capabilities.

3.13.1 Incomplete registration of prepaid subscribers

Recognizing the importance of maintaining complete details of subscribers in the interests of national security, the Vigilance Cell of Department of Telecommunications (DoT) had issued (July 2006) detailed instructions on the booking procedures of all mobile services which were agreed to by the Cellular Operators Association of India (COAI) also. Accurate creation of customer master data in the billing system is the most important step in ensuring efficient revenue realization. Customer details should be captured completely and accurately at the time of registration of a customer. Moreover, good verification procedures and archiving of the verification documents in an easily retrievable format facilitate the change management processes which include change of customer profile, change of tariff plans etc. Electronic archiving of customer documents viz. application form, proof of identity, proof of residence along with signature scanning is necessary for easy retrieval and verification through the system and facilitates single window clearance of subscriber complaints

It was noticed in Audit that out of 6.01 lakh prepaid subscribers as on 31 March 2006 of Mumbai Unit, in the case of 1.61 lakh (27 per cent) subscribers fields for important identification parameters like name, address etc were not fed with proper entries. Again, scrutiny of the database for connections released in April 2006 revealed that out of 24,076 new connections, details of 19,780 (82 per cent) customers were not registered correctly. Similar omissions were noticed in Delhi Unit also in respect of 25,281 subscribers out of seven lakh prepaid connections. Of this 13,497 were active subscribers, 41 were under temporary disconnection and 11,293 connections were closed. Similarly other personal identification details like date of birth, PAN number, etc of 7.57 lakh customers out of 9.64 lakh active customers (79 per cent) were not available in the B&CCS. These deficiencies in populating the database with correct entries would not only hamper collections in case of non-payment of dues but also pose problems in tracking down of a subscriber in cases of misuse/unauthorized use or use for unlawful activities.

The management stated that the shortcomings were due to the heavy growth of prepaid customers which exceeded the capacity of the database and instructions were issued to all the Sanchaar Haats to obtain necessary identification and address details if any such subscriber approaches for replacement of SIM cards.

The proposed corrective actions reflect a very soft approach in updating the customer details.

It was also observed that the data on applicants were not being archived electronically which may hamper easy redress of customer grievances.

Management replied that a new tender for electronically archiving the remaining forms was in progress, and software for browsing the forms was also being procured.

3.13.2 Non utilization of system for sales activities

Apart from its own network of Sanchar Haats for sale of its products i.e. postpaid and prepaid mobile connections, the Company engaged franchisees for sale of its products on commission basis. On scrutiny it was found that the System was not being utilized for sales activities due to non-customization of the related module. Effective utilization of the System for sales activities would help in better management.

3.13.3 Non-recovery of Service Tax and Education Cess

The rates of Service Tax have been raised to 12 per cent from 10 per cent in the Finance Act 2006. The rates came into effect from 18th April 2006.

On scrutiny it was found that the revised Service Tax for recharge coupons of prepaid connections was given effect from 10th May 2006 at Mumbai and 22nd April 2006 at Delhi. The delay in effecting the required changes led to short recovery of Service Tax amounting to Rs 24 lakh.

On this being pointed out the Management accepted that there was delay in effecting changes in the system.

3.14 MONITORING THROUGH B&CCS

Apart from the built in controls of the IT application, strong controls around the system i.e. sound monitoring of the information system ensures its proper functioning and timely detection and rectification of defects. The Decision Support System of the B&CCS is an important tool which can generate various reports to facilitate effective monitoring of its functions. However, it was noticed that effective monitoring was lacking in the following areas.

3.14.1 Delay in disconnection in respect of cheque dishonour cases

As per rules adopted by the Company, a subscriber whose cheque has been dishonoured by Bank should be intimated immediately and given one day's time to make payment failing which the service should be deactivated. During test check of cheque dishonour cases in respect of the 62nd bill cycle it was noticed that there was delay, ranging between 6 and 50 days in disconnection of mobile phones after the date of cheque dishonour. It was noticed that some subscribers

made heavy calls in the intervening period i.e. during the period from cheque dishonour date to the date of permanent disconnection. The value of calls made by individual customers during this period ranged from Rs 3 to Rs 1.18 lakh.

As the disconnection procedure of MTNL GSM service was not system driven, monitoring controls should have been in place to issue alerts to the subscribers whose cheques were dishonoured.

3.14.2 Erroneous information on delays in providing services

Timely activation of all the services requested by a subscriber improves customer satisfaction and revenue earning.

- It was observed that the data in respect of these facilities was erroneous. In most of the cases the date of provision of facilities was shown as the date of application, instead of the date on which the facility was provided.
- With a view to ascertaining the promptness of the Company in providing the services requested by subscribers, a test check was done on the 'Jeevan-Sathi' Plan at Delhi. This plan offered life long connection for a one time payment, and STD and National Roaming facilities were also to be given at the same time on the same application. It was observed that out of 20,940 connections provided under this plan in first week of April 2006, there were delays ranging between 5 and 159 days in respect of 13,007 cases in activating STD/Roaming facilities. However, it was noticed that in these cases, the date of application for the additional two facilities was fed as the same date on which these facilities were actually provided.

The depiction of date of actual provisioning as the date of application for that facility was erroneous and hence information available in the system could not be relied upon.

3.15 INFORMATION TECHNOLOGY SECURITY

The success of any IT system depends on the strength of its IT security policies. Audit observations on the IT security of B&CCS are discussed in the succeeding paragraphs.

3.15.1 Non-availability of exclusive security policy

B&CCS handles a large database with huge revenue implications and thus merit a well documented IT Security Policy and the same should be made available for all employees. No exclusive IT security policy existed in respect of MTNL's GSM services.

On this being pointed out the Management stated that the GSM billing system was still under customization and IT security policy would be implemented once it was taken over.

3.15.2 Absence of Business Continuity Plan (BCP) and Disaster Recovery Plan (DRP) for GSM

BCP/DRP entails identification of areas of the business process which would affect business continuity in the event of an interruption or disaster leading to temporary or partial loss of computer facilities. Identification of key personnel who would be required for continuity of the business process, in a contingency and making them aware of their responsibilities are important factors of BCP/DRP. It was observed that no such plans were communicated by the Company to the personnel manning the B&CCS or any key personnel identified to deal with any eventuality.

Further, the backup data of B&CCS was kept on magnetic tapes with multiple sets of tape in tape library in the same telephone exchange building in Delhi where B&CCS was located which would hamper any recovery in case of a disaster.

3.15.3 Physical access not barred

Physical access to outsiders, outside materials, floppies, CDs etc., should be restricted to ensure the desired level of security for an IT system. The Customer Service Representative (CSR) terminals working at Customer Service Centres (CSC) were with the facility of USB port; and CD/Floppy drives which could lead to unauthorized data extraction.

On this being pointed out it was replied by the Mumbai unit that the work of disabling USB ports and CD/Floppy drives in CSR terminals was in progress to restrict physical access.

3.16 CONCLUSION

MTNL took the decision to procure a new B&CCS replacing their existing system at a time when plans for a new convergent billing system were already on the anvil. While planning for the new B&CCS the Company did not recognize the capabilities of the billing package it chose to replace resulting in avoidable investment on the system. Inadequacies in customization of the new off-the shelf package and deficiencies in its functioning as brought out in the report and the absence of a non-disclosure agreement with the vendor which compromises the security of the database point to the need for fine tuning the Company's efforts in planning, defining and implementing its IT programmes. Incomplete feeding of data, especially in respect of pre-paid customers could have serious revenue and security implications. Similarly, failure to implement credit control module could result in further leakage of revenue. The company should strengthen their IT security areas with regard to access controls and formulate and implement a

business continuity plan to match the best practices in the industry and to safeguard their interests. The Management should strive to tap the full potential of IT so as to offer improved services like hot billing, payment through credit card, easy redressal of customer complaints etc., so that the Company performs better in the prevailing competitive environment.

C.V. Avadhani

New Delhi

Dated : 12 MAR 2007

(C.V. AVADHANI)

Deputy Comptroller and Auditor General
cum Chairman, Audit Board

Countersigned



New Delhi

Dated : 13 MAR 2007

(VIJAYENDRA N. KAUL)

Comptroller and Auditor General of India

Appendix I

(Referred to in paragraph 1.10.1 at page 11)

Circle-wise status of sites radiated without obtaining clearance from SACFA⁵ and payments made to the vendors for providing inputs for obtaining clearance of sites from SACFA

Sl No.	Circle	Number of sites radiated for which SACFA clearance applied but not received	Number of sites radiated for which SACFA clearance not applied	Total sites radiated without SACFA clearance
1	2	3	4	5
1	Andhra Pradesh	1005	Nil	1005
2	Assam	412	Nil	412
3	Chhattisgarh	220	36	256
4	Gujarat	14	Nil	14
5	Haryana	389	Nil	389
6	Himachal Pradesh	36	Nil	36
7	Jammu & Kashmir	252	Nil	252
8	Karnataka	731	Nil	731
9	Kerala	382	13	395
10	Madhya Pradesh	210	Nil	210
11	Maharashtra	491	1759	2250
12	North East-I	169	Nil	169
13	Orissa	583	106	689
14	Punjab	800	Nil	800
15	Rajasthan	956	588	1544
16	Uttaranchal	209	Nil	209
17	Uttar Pradesh (East)	1372	Nil	1372
18	Uttar Pradesh (West)	885	1014	1899
Total		9116	3516	12632

⁵ Standing Advisory Committee on Frequency Allocations

Appendix II

(Referred to in paragraph 1.10.3 at page 12)

Circle-wise status of delays in handing over sites to the vendors for installation of CMTS equipments

Sl No.	Circle	Phase of IMPCS project	Number of sites	Delays in handing over of sites to the vendors (In months)
1	2	3	4	5
1	Bihar	IV	44	--
2	Calcutta Telephone District	III & IV	158	18
3	Himachal Pradesh	IV	53	--
4	Jammu & Kashmir	I & II	26	--
5	Jharkhand	IV	152	1 to 14
6	Kerala	IV	975	2 to 9
7	Madhya Pradesh	IV+ & IV ++	58	2 to 9
8	Orissa	III & IV	97	1 to 7
9	Punjab	IV	94	--
10	Rajasthan	I, III, III+, IV & IV ++	1413	1 to 20
Total			3070	1 to 20

Appendix III

(Referred to in paragraph 1.11.2 at page 16)

Statement showing non-collection of additional performance bank guarantees from the suppliers despite giving extensions in commissioning of the projects

- under phases-I to III* of IMPCS project

Sl. No.	Circle	Phase of IMPCS project	Purchase order value (Rs. in lakh)	Date of purchase order	Schedule date of commissioning	Actual date of commissioning	Delay in completion (in weeks)	Additional performance bank guarantee not obtained (5% of the purchase order value) (Rs. in lakh)
1	Assam	I & II	3301.90	05.09.03	05.05.04	25.11.04	29	165.09
		III	3398.57	04.03.04	04.09.04	29.03.05	29	169.93
2	West Bengal	II+	290.55	28.08.03	27.04.04	15.05.04	3	14.53
		III	5815.16	07.01.04	06.07.04	30.09.04	12	290.76
		III+	3709.79	31.03.04	30.09.04	31.12.04	13	185.49
Total			16515.97				3-29	825.80

- under phases-IV to IV** of IMPCS project due to unjustified relaxation given by the corporate office in violation of the relevant terms and conditions of the purchase orders

1.	Assam	IV	6609.51	13.10.04	13.07.05	WIP (31.07.06)	55	330.47
2.	Bihar	IV	10735.70	14.10.04	13.07.05	WIP (31.07.06)	55	536.79
3.	Madhya Pradesh	IV+	3114.97	27.04.04	26.12.04	31.03.05	14	155.75
		IV++	13136.11	05.07.05	04.04.06	WIP (31.07.06)	17	656.80
4.	UP (West)	IV	5580.00	30.09.04	29.06.05	29.09.05	13	279.00
Total			39176.29				13-55	1958.81

Appendix IV

(Referred to in paragraph 1.11.3 at page 16)

Statement showing non-recovery of liquidated damage charges from the suppliers despite delay in commissioning of the CMTS equipment under phases-I to IV⁺⁺ of the IMPCS project

Sl. No.	Circle	Phase of IMPCS project	Name of Vendor	Purchase order date/value (Rs in crore)	Scheduled date of commissioning	Actual date of commissioning	Delay in commissioning	LD charges not recovered (Rs in crore)	Brief facts of the case
1.	Karnataka	IV	M/s Nortel	30.9.2004/ 201.70	29.6.2005	02.01.2006 (Indigenous items)	27 weeks	0.74	Actual date given for supply of materials. LD had been worked out for delay in delivery of materials. 50% payment had been made (January 2006)
						17.9.2005 (Imported items)	12 weeks		
2.	Chattisgarh	IV	M/s ITI, Bangalore	30.4.2004/ 9.83	29.12.2004	16.3.2005	11 weeks	0.56	LD had been calculated for delay in completion of project. In reply, it was stated that LD due would be recovered at the time of payment of rest 50% amount.
3.	Orissa	I		NA/59.81	05.11.2002	24.10.2003	50 weeks	--	LD had been calculated for delay in completion of project.
		II		NA/14.46	08.8.2003	29.9.2003	7 weeks		
		II ⁺		NA/13.82	24.4.2004	24.6.2004	8 weeks		
		III		NA/37.95	01.7.2004	28.02.2005	32 weeks		
		IV	M/s Nortel	NA/110.82	05.7.2005	Not completed as on 31.5.2006	More than 40 weeks	13.77	
		IV ⁺	M/s Ericsson	NA/11.85	23.4.2005	17.6.2005	8 weeks		

Sl. No.	Circle	Phase of IMPCS project	Name of Vendor	Purchase order date/value (Rs in crore)	Scheduled date of commissioning	Actual date of commissioning	Delay in commissioning	LD charges not recovered (Rs in crore)	Brief facts of the case
4.	Assam	I & II	M/s Ericsson	05.9.2003/ 33.01	05.5.2004	25.11.2004	24 weeks	0.09	Extension granted up to 30.09.04. Therefore, LD to be recovered for the period from 01.10.04 to 25.11.04 i.e. 8 weeks. 7 BTS (Valuing Rs. 79.97 lakh) were not commissioned till Feb 2005. Therefore LD of Rs. 9.59 (12% of 79.97) lakh to be recovered from vendor. It was stated, in reply, that case would be considered at the time of final payment.
		III	M/s Ericsson	04.3.2004/ 33.98	04.9.2005	29.3.2005	29 weeks	0.05	Extension granted upto 31.3.2005. 3 BTS (Valuing Rs. 38.35 lakh) were not commissioned. Maximum LD of Rs. 4.60 (12% of 38.35) to be recovered. It was stated, in reply, that case would be considered at the time of final payment.
5.	Uttar Pradesh (West)	IV	M/s Nokia	30.9.2004/ 56.65	29.6.2005	09.02.2006	32 weeks	11.56	In reply, it was stated that LD due would be adjusted against final payment.
		III	M/s Ericsson	30.12.2003/ 33.33	29.6.2004	30.7.2004 to 10.9.2004	4 to 10 weeks	0.55	LD had been calculated for delay in delivery of equipment. In reply, it was stated that LD would be calculated on delay in completion of project.
6.	Maharashtra	IV	M/s ITI	30.4.2004/ 179.88	20.12.2004	01.8.2005	31 weeks	21.58	In reply, it was stated that LD due would be recovered and communicated to audit.
7.	Kerala	I	M/s Motorola	27.12.2001/ 102.38	26.8.2002	24.6.2004	More than 20 weeks	12.29	It was replied that LD would be adjusted against 15% withheld amount.

Sl. No.	Circle	Phase of IMPCS project	Name of Vendor	Purchase order date/value (Rs in crore)	Scheduled date of commissioning	Actual date of commissioning	Delay in commissioning	LD charges not recovered (Rs in crore)	Brief facts of the case
8.	West Bengal	II ⁺	M/s Ericsson	28.8.2003/ 2.91	27.4.04	15.5.04	3 weeks	0.04	100% payment had been made.
		III	M/s Ericsson	07.01.2004/ 58.15	06.7.04	30.9.04	13 weeks	4.12	100% payment had been made.
		III ⁺	M/s Ericsson	31.3.2004/ 37.09	30.9.04	31.12.04	13 weeks	4.45	100% payment had been made.
		IV	M/s Nortel	21.9.2004/ 175.66 & 31.01.2005/ 23.83	20.6.2005 & 31.10.2005	Not completed as on 31.5.2006	More than 20 weeks	23.92 (21.07+2.85)	50% payment had been made.
		IV ⁺	M/s Ericsson	17.02.2005/ 16.38	16.4.05	15.10.05	26 weeks	1.96	80% payment had been made.
9.	Uttar Pradesh (East)	III	M/s Ericsson	30.12.2003/ 46.85	29.6.04	15.02.05	31 weeks	9.87	In reply it was stated that LD due would be adjusted against final payment of remaining 30% after calculation of actual delay of project.
		III ⁺	M/s Ericsson	25.02.2004/ 72.07	24.8.04	20.5.05	38 weeks	18.24	In reply, it was stated that EOT case was submitted to Competent Authority. After finalization of case LD due would be adjusted against final payment of remaining 30%.
		IV	M/s Nokia	20.9.2004 & 20.6.2005/ 191.46	19.6.05	Not completed as on 31.5.2006	More than 50 weeks	63.18	50% payment made against imported items. In reply, it was stated that LD as applicable would be recovered from subsequent bills on delay in project.
		IV ⁺	M/s Nokia	NA/61.28	19.9.05	Not completed as on 07.6.2006	38 weeks	15.07	In reply, it was stated that action would be taken as per instruction of circle office.

Sl. No.	Circle	Phase of IMPCS project	Name of Vendor	Purchase order date/value (Rs in crore)	Scheduled date of commissioning	Actual date of commissioning	Delay in commissioning	LD charges not recovered (Rs in crore)	Brief facts of the case
		IV ⁺⁺	M/s Nokia	31.10.2005/ 225.78	31.3.06	Not completed as on 15.6.2006	10 weeks	11.28	No payment was made.
10.	Jammu & Kashmir	IV	M/s Nokia	25.9.04/ 48.13	24.6.05	Not completed as on 31.3.2006	More than 20 weeks	5.77	In reply, it was stated that LD would be recovered at the time of making final payment to vendor.
11.	Haryana	IV	M/s Nokia	28.9.04/ 124.99	27.6.05	Not completed as on 31.3.2006	More than 20 weeks	14.99	In reply, it was stated that LD would be recovered at the time of making final payment to vendor.
12.	Rajasthan	III		NA/38.29	30.6.04	Not completed	More than 2 years	4.60	In reply, it was stated that LD as applicable would be deducted from the respective vendors.
		III ⁺		NA/26.31	20.8.04	Not completed	More than 1 & ½ year	3.16	
		IV		NA/201.57	28.6.05	Not completed	More than 1 year	24.19	
		IV ⁺		NA/14.99	21.10.05	Not completed	More than 20 weeks	1.80	
		IV ⁺⁺	M/s Nokia	NA/90.28	02.6.06	Not completed	9 weeks (July 06)	4.06	
		IV ⁺⁺	M/s Ericsson	NA/51.30	30.5.04	Not completed	9 weeks (July 06)	1.79	
TOTAL								273.68	

Appendix V

(Referred to in paragraph 1.12.4.1 at page 24)

Statement showing delays in signing of Annual Maintenance Contracts (AMCs) and payment of AMC charges for the period for which signing of AMCs was delayed by the circles of BSNL

Sl. No.	Name of Circle	Phase of IMPCS project	Due date of signing AMC	Date of signing of AMC	Delay in signing of AMC (in days)	Effective date of actual commencement of AMC	AMC charges paid for the delayed period of signing of AMC (Rupees in lakh)
1	Andhra Pradesh	I & II	01.07.04	31.03.05	273	01.07.04	1073.67
		II+	18.08.05	18.02.06	184	18.08.05	53.65
2	Calcutta Telephone District	II	01.11.04	26.09.05	351	01.11.04	99.04
3	Gujarat	I	01.04.04	06.07.04	96	01.04.04	32.43
		II	10.11.04	28.03.05	138	10-11-04	Not yet paid
4	Karnataka	I & II	01.08.04	03.02.05	212	03.02.05	NA
5	Madhya Pradesh	I	01.04.04	25.07.05	481	01.04.04	127.00
		II	10.11.04	25.07.05	257	10.11.04	14.97
6	Haryana	I & II	01.10.04	07.12.04	67	01.04.04	36.84
7	Himachal Pradesh	I & II	01.10.04	07.10.05	371	01.10.04	64.75
8	Jammu & Kashmir	I & II	25.09.05	22.03.06	178	25.09.05	37.59
9	NE I	I & II	01.03.05	July 05	120	01.03.05	Not yet paid
10	Orissa	I & II	July 04	May 05	304	July 04	168.45
11	Rajasthan	I & II	15.07.04	04.10.05	445	15.07.04	89.28
Total							1797.67

Appendix VI

(Referred to in paragraph 1.12.4.2 at page 25)

Statement showing cases of non-recovery, short levy and non-levy of penalty on the vendors for non-rectification of major/minor faults occurring in the CMTS system equipment during Annual Maintenance Contracts (AMCs)

(Rs in crore)

Sl. No.	Name of Circle	Delay in rectification of faults	Penalty not recovered	Brief description of the facts
1	Orissa	Ranging from five days to more than 10 months	1.74	After allowing the due period of 21 days, there were delays in repairing sub system/faulty cards for which penalty was not recovered from the vendor, M/s Ericsson.
		Ranging from 18 hours to more than one and half months.	1.32	Delays in repairing faults detected at Mobile Services Switching Centre (MSC)/ Base Transceiver Station (BTS). Penalty was worked out considering all faults as minor faults but not recovered from the vendor, M/s Ericsson.
2	Tamil Nadu	Delay of more than six months	Not levied	Major failure in Sathyamangalam Base Station Controller (BSC) though reported to the vendor, M/s Motorola, in February 2006, but not repaired as of August 2006. However, penalty for non-rectification of faults was not worked out as of August 2006 for recovery from the vendor.
		Delays ranging from 15 months to 18 months.	Not levied	Minor faults in various BTS sites occurred from March 2005 to June 2005 but were not rectified as of August 2006 by the vendor. However, penalty to be levied on the vendor for delay in rectification of faults was not worked out as of August 2006.
3	Uttar Pradesh (West)	Ranging from five days to more than seven months.	2.95	Delay in rectification of faults in five cases for which penalty was not recovered from the vendor.
4	Maharashtra	Delay of more than three months.	Not levied	Faults occurred in the system during 1 April 2004 to 12 July 2004 were not rectified by the vendor, M/s ITI, within the prescribed time. However, adhoc payment of Rs 42.72 lakh, being 50 per cent of AMC charges due for the first half of the first year of phase-I was released to M/s ITI without levy of penalty for not attending faults during above period of AMC.
5	Jharkhand	Ranging from one month to more than three months.	2.16	Two BTS were faulty since 29 April 2006, six more BTS were faulty since 4 May 2006 and another two BTS located at Gua and Adityapur were faulty since 16 May 2006 and 23 May of 2006, respectively, but the vendor had not rectified the same as of August 2006. However, the penalty for non-rectification of above faults was not recovered from the vendor as of August 2006.
6	Bihar	Ranging from eight days to more than one month.	3.73	Even after several reminders, vendor had not rectified the system faults. Penalty for non-rectification of faults was also not recovered from the vendor by the Circle.
7	Punjab	Ranging from one day to more than 15 months.	7.78	Delays on 23 occasions in rectification of major/minor faults by the vendor. However, the Circle did not recover penalty for non-rectification of the same from the vendor.
8	Gujarat	Ranging from 3 hours to more than 13 months	7.30	Delays of 68 hours in rectification faults of Sidhapur city BTS during 5 th to 8 th December 2002 and delays of 3 hours to more than 13 months in rectification of faults of Ahmedabad, Surat and Rajkot BTSs during 2004-06 by the vendor were noticed. However, the Circle did not recover penalty from the vendor for non-rectification of these faults.
Total			26.98	

Appendix VII
(Referred to in paragraph 1.13.1 at page 30)
**Statement showing details of year-wise revenue billed, collected and outstanding
for recovery from post-paid(Cell-one) CMTS customers**

(Rs in Crore)

Sl. No.	Circle	Revenue outstanding at the beginning of the year	Revenue billed during the year	Total revenue due for recovery	Revenue collected during the year	Revenue outstanding at the end of the year	Percentage of revenue collection to total revenue due for recovery
2003-04							
1	Andhra Pradesh	4.00	83.00	87.00	54.00	33.00	62
2	Assam	0.00	0.00	0.00	0.00	0.00	
3	Bihar	0.45	19.68	20.13	14.96	5.17	74
4	Chennai Telephone District	0.00	28.79	28.79	27.81	0.98	97
5	Gujarat	9.95	78.60	88.55	39.14	49.41	44
6	Haryana	1.61	28.42	30.03	23.02	7.01	77
7	Himachal Pradesh	0.35	9.96	10.31	7.01	3.30	68
8	Jharkhand	0.01	24.35	24.36	19.25	5.11	79
9	J & K	0.00	11.37	11.37	10.57	0.80	93
10	Karnataka	0.46	97.72	98.18	68.19	29.99	69
11	Kerala	0.68	74.44	75.12	55.64	19.48	74
12	Calcutta Telephone District (CTD)	0.05	5.98	6.03	4.64	1.39	77
13	Madhya Pradesh & Chhatisgarh	1.39	48.04	49.43	40.79	8.64	83
14	Maharashtra	8.57	154.94	163.51	105.39	58.12	64
15	NE-I	0.00	0.00	0.00	0.00	0.00	
16	Orissa	1.10	33.25	34.35	28.64	5.71	83
17	Punjab	4.89	53.50	58.39	34.52	23.87	59
18	Rajasthan	1.82	70.66	72.48	57.11	15.37	79
19	Tamil Nadu	1.22	107.25	108.47	98.69	9.78	91
20	UP(E)	0.00	106.01	106.01	75.83	30.18	72
21	UP(W)	2.00	65.00	67.00	46.00	21.00	69
22	Uttaranchal	0.87	16.12	16.99	11.56	5.43	68
23	West Bengal	1.24	26.18	27.42	22.12	5.30	81
Total		40.66	1143.26	1183.92	844.88	339.04	71
2004-05							
24	Andhra Pradesh	33.00	110.00	143.00	100.00	43.00	70
25	Assam	0.00	83.19	83.19	68.27	14.92	82
26	Bihar	5.17	41.14	46.31	29.95	16.36	65
27	Chennai Telephone District	0.99	51.50	52.49	50.72	1.77	97
28	Gujarat	49.41	69.52	118.93	82.24	36.69	69
29	Haryana	7.01	36.47	43.48	35.34	8.14	81
30	Himachal Pradesh	3.30	9.34	12.64	9.52	3.12	75
31	Jharkhand	5.11	32.96	38.07	29.60	8.47	78
32	J & K	0.80	80.18	80.98	77.46	3.52	96

Sl. No.	Circle	Revenue outstanding at the beginning of the year	Revenue billed during the year	Total revenue due for recovery	Revenue collected during the year	Revenue outstanding at the end of the year	Percentage of revenue collection to total revenue due for recovery
33	Karnataka	29.99	96.12	126.11	90.44	35.67	72
34	Kerala	19.48	97.05	116.53	100.63	15.90	86
35	CTD	1.39	21.03	22.42	18.27	4.15	81
36	Madhya Pradesh & Chhatisgarh	8.64	65.02	73.66	63.89	9.77	87
37	Maharashtra	58.12	155.94	214.06	148.72	65.34	69
38	NE-I	0.00	22.64	22.64	18.84	3.80	83
39	Orissa	5.71	52.02	57.73	46.82	10.91	81
40	Punjab	23.87	51.66	75.53	44.89	30.64	59
41	Rajasthan	15.37	94.68	110.05	94.81	15.24	86
42	Tamil Nadu	9.78	121.22	131.00	119.16	11.84	91
43	UP(E)	30.18	169.15	199.33	166.06	33.27	83
44	UP(W)	21.00	89.00	110.00	84.00	26.00	76
45	Uttaranchal	5.43	21.54	26.97	20.92	6.05	78
46	West Bengal	5.30	40.38	45.68	35.81	9.87	78
Total		339.05	1611.75	1950.80	1536.36	414.44	79
2005-06							
47	Andhra Pradesh	43.00	118.00	161.00	117.00	44.00	73
48	Assam	14.92	162.73	177.65	153.45	24.20	86
49	Bihar	16.36	45.90	62.26	38.64	23.62	62
50	Chennai Telephone District	1.77	91.06	92.83	89.84	2.99	97
51	Gujarat	36.69	82.42	119.11	81.56	37.55	68
52	Haryana	8.14	39.15	47.29	41.28	6.01	87
53	Himachal Pradesh	3.12	12.78	15.90	12.65	3.25	80
54	Jharkhand	8.47	37.68	46.15	36.29	9.86	79
55	J & K	3.52	133.50	137.02	116.21	20.81	85
56	Karnataka	35.67	130.97	166.64	124.07	42.57	74
57	Kerala	15.90	142.19	158.09	142.45	15.64	90
58	CTD	4.15	31.66	35.81	27.04	8.77	76
59	Madhya Pradesh & Chhatisgarh	9.77	98.04	107.81	91.19	16.62	85
60	Maharashtra	65.34	186.30	251.64	185.03	66.61	74
61	NE-I	3.80	44.11	47.91	41.95	5.96	88
62	Orissa	10.91	67.28	78.19	60.12	18.07	77
63	Punjab	30.64	38.20	68.84	42.96	25.88	62
64	Rajasthan	15.24	113.27	128.51	109.98	18.53	86
65	Tamil Nadu	11.85	211.00	222.85	208.61	14.24	94
66	UP(E)	33.27	161.20	194.47	153.89	40.58	79
67	UP(W)	26.00	78.00	104.00	77.00	27.00	74
68	Uttaranchal	6.05	24.26	30.31	23.04	7.27	76
69	West Bengal	9.87	49.60	59.47	47.42	12.05	80
Total		414.45	2099.30	2513.75	2021.67	492.08	80

Appendix VIII

(Referred to in paragraph 1.13.2 at page 30)

Statement showing dues outstanding from post-paid customers where the chances of recovery were remote

(Rs. in Crore)

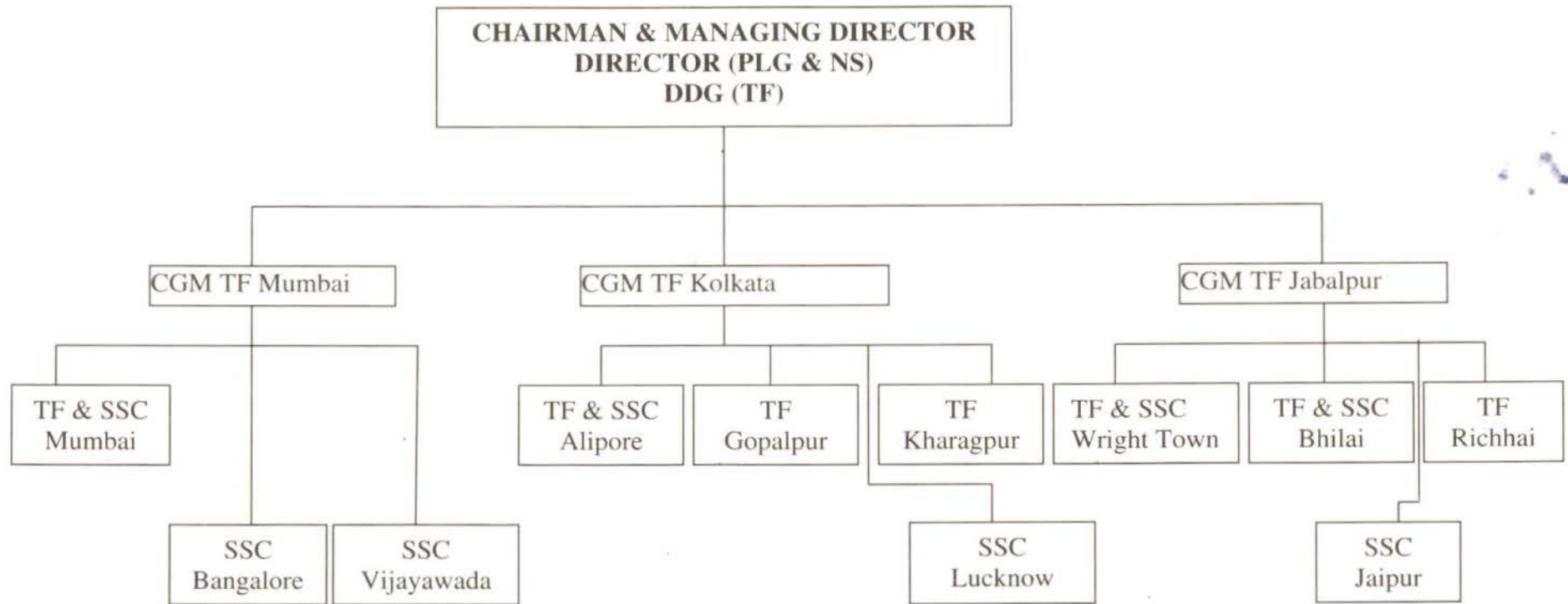
Sl. No.	Circle	No. of SSAs	No. of cases	Amount	Reasons for outstandings
1	Karnataka		8760	24.3	Non-implementation of threshold server in the billing system and non-verification of the particulars of the customers
2	Madhya Pradesh	8		1.15	Non-verification of the particulars of the customers, non monitoring of heavy callers and non-recovery of outstanding bills service connection given to dealers/frnchises.
3	Orissa		457	2.74	Deficiencies in implementation of threshold limits
4	Chhatisgarh	1	17	0.31	Non-verification of the particulars of the customers
5	Assam		44	0.84	Non-implementation of threshold server in the billing system and non-verification of the particulars of the customers
6	Calcutta Telephone District		521	2.24	Failure to timely activate auto-disconnection facility in the billing system and non verification of particulars of customers. Case is under vigilance.
7	Uttaranchal	1	21	1.68	Non verification of particulars of customers and no credit limits fixed. Case is under vigilance.
8	Maharashtra		192	8.00	Non verification of particulars of customers. Case is under vigilance.
9	Kerala		134	3.54	Non-implementation of threshold server in the billing system and non-verification of the particulars of the customers. Case is under vigilance.
10	Jharkhand		4	1.77	Non-verification of the particulars of the customers
11	Andhra Pradesh		12,293	8.21	Non-implementation of threshold server in the billing system
12	Rajasthan		54	2.33	Due to non-implementation of threshold server in the billing system, fake ISD cases noticed during 2002-03. Already reported in CAG's report No.5 of 2005 as para No.2.2 (page 10) appendix-1.
Total				57.11	

Appendix IX
(Referred to in paragraph 1.13.4 at page 31)
Statement showing details of un-reconciled revenue due to non-reconciliation
of sale of top-up cards, recharge coupons, credit balances of
customers and revenue collected through bank

(Rs in lakh)

Sl. No.	Circle	SSAs	Period	Un-reconciled Amount	Brief facts of the case
1	Chhattisgarh	Raipur, Durg, Jagdalpur, Bilaspur and Ambikapur	2002-03 to 2005-06	1343.00 (1264.43 + 78.50)	Difference between actual sale value of recharge coupons and top-up cards and the figures of revenue booked by the SSAs. The local management stated that reconciliation would be done shortly.
2	Jammu & Kashmir	Circle office	2004-05 and 2005-06	46.98	Unadjusted credits against 7241 connections as per Sub ledger records. The local management stated that the matter had been referred to CAO (CMTS) Chandigarh for reconciliation and rectification
3	Maharashtra	Raigad	November 2002 to August 2004	16.50	Difference between the numbers of recharge coupons issued and accounted for by the SSA. The local management stated that this would be verified.
4	Orissa	Bhubaneswar, Cuttack, Behrampur, Sambalpur and Koraput	Up to September 2004 and October 2004 to March 2006	117.07	Difference between the number of recharge coupons sold and amount credited by different sub-units and franchisees. The local management stated that reconciliation from October 2004 to March 2006 (for Rs 108.00 lakh) was under process.
5	UP (East)	Lucknow	January 2004 to March 2006	104.32	Difference between the revenue as per Telephone Revenue Collection reports and amount actually remitted by the UTI Bank after collection of cheques from the customers. The local management stated that after complete reconciliation, interest as per agreement will be calculated and recovered from the Bank.
Total				1627.87	

Appendix-X
(Referred to in paragraph 2.2 at page 34)
Telecom Factories Organisation



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Appendix -XI

(Referred to in paragraph 2.8.5 at page 39)

Statement showing excess expenditure incurred by circles on procurement of products from telecom factories

(Amount in Rupees)

Sl. No.	Name of the product	Year	Quantity supplied	Average rate of TF	Average Market rate	Difference	Excess expenditure
1	2	3	4	5	6	7(5-6)	8 (7*4)
1	SSDW	2001-02 to 2005-06	442635	1637	1358	279	123495165
2	SJC	2002-03 to 2005-06	77041	1205	566	639	49229199
Total							172724364

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