

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.