

**MINISTRY OF COMMUNICATIONS AND INFORMATION
TECHNOLOGY**

CHAPTER II

Bharat Sanchar Nigam Limited

Follow up of audit recommendations of previous reviews

Highlights

In respect of three reviews covered in the performance audit, none of the ATNs were received for vetting within their due dates. Subsequently out of a total of 86 ATNs relating to the three reviews, only 56 had been vetted till August 2008.

(Para 2.7)

Though the ATN was given stating that a Committee was set up to study the utilisation aspects of microwave links, 37 microwave link routes remained idle without being decommissioned even after introduction of Optical Fibre Cable (OFC) ring in the Eastern Telecom Region (ETR).

(Para 2.8.2 (a))

The Ministry assured that necessary instructions had been issued (January 2005) to the circles for rectifying the deficiencies as observed by Audit. However, 10 microwave routes falling under categories III and IV, which were ordered for closure by Bharat Sanchar Nigam Limited (Company), were yet to be decommissioned in ETR.

(Para 2.8.2(c))

In the ATN it was stated that the DotSoft package had been modified to tackle the problem of unaddressed bills. Audit, however, noticed that un-addressed bills continued to be generated in 11 Secondary Switching Areas (SSAs) under Gujarat, Karnataka and Orissa telecom circles despite modifications in the DotSoft Package.

(Para 2.9.2(b))

In spite of assurances of remedial measures by the Company, the auto disconnection of outgoing calls of subscribers beyond their prescribed credit limits was not effected, resulting in arrears of Rs.49.49 lakh in seven SSAs test checked under Gujarat and UP (West) circles.

(Para 2.10.2(a))

A Disaster Recovery Plan to safeguard the system and data relating to CMTS billing centres was recommended by Audit in April 2007. The Company was yet to implement the same although the revenue from CMTS was Rs.10,579 crore during the year 2007-08.

(Para 2.10.2(b))

Summary of recommendations

- 1. Before issuing ATNs to audit paragraphs, the Ministry and the Company should ensure actual implementation of the remedial measures in the field units. Mere assurances in the form of issuance of instructions to field units would not serve any purpose.**
- 2. The Ministry and the Company should ensure that ATNs duly vetted by Audit are submitted to Committee on Public Undertakings within the prescribed time frame of six months.**
- 3. The review on working of Telecom Maintenance Wing in the Company highlighted amongst other things, idling of micro wave systems. In spite of assurances the same has not improved. The Company should once again review and ensure proper utilisation of micro wave systems.**
- 4. The review on Information Technology Audit of DotSoft Package in the Company highlighted deficiencies in the package leading to non-realisation of revenue. As the deficiencies still persist, the Company should ensure that modifications made in the DotSoft software are properly implemented. Also these deficiencies should be addressed in any new billing software being introduced in the Company.**
- 5. The review on Cellular Mobile Telephone Services (CMTS) in the Company focused on various deficiencies relating to planning, procurement, commissioning and operations of CMTS. ATNs in respect of Audit recommendations made in the performance audit on CMTS have not been received. The Audit Report was laid in the Parliament in April 2007 and belated submission of ATNs would not serve any purpose. The mobile telephony has already moved from 2G to 3G cellular telecom networks and in the rapidly changing telecom scenario the Company has to take swift action on the Audit recommendations to gain benefit out of it.**

2.1 Introduction

Topics/themes relating to an entity having significance and financial considerations are examined and developed into Performance Audit Reports/Reviews/Information Technology Audit Reports. These reviews along with audit recommendations are included in the Audit Reports which are laid in the Parliament. The concerned Ministries/entities submit Action Taken Notes (ATNs) which *inter-alia* brings out the remedial measures taken by the entity, in respect of all the paragraphs relating to the Performance Audit/Review/Information Technology Audit included in the Audit Reports. These ATNs are duly vetted by Audit and submitted by the concerned Ministry/entity to the Committee on Public Undertakings (COPU) within six months from the date of presentation of the relevant Audit Report.

The performance audit on follow up of audit recommendations of previous reviews relating to Bharat Sanchar Nigam Limited primarily focuses on the effectiveness and compliance of remedial measures taken/assurances given by the Ministry/Company in its ATNs submitted to Audit for vetting.

This performance review covers the following three past reviews that appeared in Audit Report of Union Government, Commercial:

- “Working of Telecom Maintenance Wing in BSNL” Report No. 5 of 2004
- “Information Technology Audit of DotSoft Package in BSNL” Report No. 5 of 2005
- “Cellular Mobile Telephone Services (CMTS) in BSNL” Report No. 10 of 2007

2.2 Scope of Audit

The purpose of this performance audit was to obtain reasonable assurance that the Company has acted on audit recommendations in case of the three chosen reviews. It also attempts to assess that there was a mechanism to monitor implementation of remedial measures and that the measures implemented have actually been successful.

2.3 Audit objectives

The objectives of Audit were to assess that:

- the Company responded adequately and timely to audit findings,
- the remedial measures initiated by the Company on audit recommendations in the selected reviews were adequate and fruitful.

2.4 Audit criteria

The main audit criteria used were:

- COPU in its Second Report (1998-99 Twelfth Lok Sabha) recommended that follow up ATNs duly vetted by Audit in respect of various paragraphs contained in the Reports of the C&AG, should be furnished to COPU within six months from the date of presentation of the Reports in the Parliament.
- Orders and instructions issued by the Company to its field offices from time to time and assurances given, as stated in ATNs.

2.5 Audit methodology

The audit methodology involved examination of related documents and discussions with the auditee on implementation of remedial measures undertaken by the Company on the audit recommendations of selected reviews. The field work was carried out between June and July 2008. The details of circles and Secondary Switching Areas (SSAs) selected are given in *Annexure – III*. Simple random sampling technique was used for selection and analysis of data.

2.6 Acknowledgement

Audit acknowledges the cooperation and assistance extended by all the levels of Management at various stages till completion of the audit.

2.7 Audit findings

Status of receipt of ATNs and review-wise audit findings on the follow up action taken by the Company are given in the succeeding paragraphs.

Status of receipt of ATNs

The position of submission of ATNs by Department of Telecommunications under the Ministry of Communication and Information Technology in respect of the three reviews selected for performance audit is given in the Table below.

Table 2.1

Reviews selected for performance audit	Audit report	Date of presentation in the Parliament	Total ATNs required for sub-paras	ATNs vetted within six months	ATNs vetted with delay	ATNs pending as of August 2008
Telecom Maintenance Wing	5 of 2004	4.02.2004	19	Nil	17	2
DotSoft Package	5 of 2005	9.03.2005	26	Nil	13	13
CMTS	10 of 2007	26.04.2007	41	Nil	26	15
Total			86	Nil	56	30

As can be seen from the table, none of the ATNs were vetted and submitted to COPU within the due dates, *i.e.*, within six months of the presentation of the concerned Audit Report in the Parliament.

Recommendation No. 2.1

The Company should ensure that ATNs are submitted within prescribed time frame.

2.8 Review on working of Telecom Maintenance Wing of BSNL

This review was conducted in June 2003, covering the period 1998 to 2003 to assess the functioning of the Telecom Maintenance Wing of the Company. The primary objective of the review was to examine the effectiveness of the Telecom Maintenance Regions in management and maintenance of various telecom networks entrusted to them.

The original major audit observations and recommendations were as follows:

- Microwave systems were installed without any requirement as Optical Fibre Cable (OFC) media was available. Also no action was taken to decommission the microwave systems after commissioning of OFC on several routes. Consequently, microwave systems were not functional/did not carry any traffic on these routes. Audit recommended that measures should be taken to decommission microwave schemes on the routes where optical fibre cable had been introduced and was handling total traffic.
- Projections indicated that annual recurring expenditure of Rs.556 crore incurred on microwave media, earned revenue of Rs.135 crore resulting in annual loss of Rs.421 crore.
- The Company failed to frame generic requirements for Multi Channel per Carrier (MCPC) Very Small Aperture Terminal (VSAT) systems. Consequently, the systems procured at a cost of Rs.47.83 crore were found to be faulty or lying idle and there were problems in their maintenance. Audit recommended that the Company should strengthen co-ordination between the Quality Assurance Wing and the Telecom Engineering Centre to avoid acquisition of poor quality equipment.
- Failure to adhere to Corporate office instructions and ineffective pursuance of dues led to non-recovery of compensation claims of Rs.40.46 crore on account of damage to cables. Audit recommended that the Company should introduce a uniform method for recovery of compensation for damages to cables.

- Company suffered loss due to delays in providing leased circuits within the time frame of four weeks prescribed by Telecom Regulatory Authority of India.

2.8.1 Action taken by the Company

Out of 19 paras in the review, 17 paras had been vetted and balance two paras were pending (as of August 2008) for want of reply from the Ministry. In the ATNs submitted by the Company through the Ministry it was assured that necessary instructions had been issued (January 2005) to the circles for rectifying the deficiencies as observed by Audit. Audit, however, noticed that the deficiencies still persisted as brought out in the next paragraph.

Further some of the directives issued by the Corporate office of the Company to its field units in response to the audit observations/recommendations, as seen from the ATNs are as below:

- A Committee was set up to study the utilisation aspects of microwave links working in the Company
- A uniform method for raising claims and recovery of compensation for damages done to the Company by private parties was considered for adoption by the Company.
- On-line leased circuit booking/commercial system, *i.e.*, TVARIT was introduced to enable faster provisioning of leased circuits.

2.8.2 Current audit observations

During test check (June and July 2008) of records in the selected sub-regions under four non-territorial circles, it was noticed that no action was taken by the telecom circles on assurances given in the ATN to implement the remedial measures in the following cases:

a) Non-decommissioning of microwave schemes on the routes where optical fibre cable was introduced

Optical Fibre Cable (OFC) ring routes are auto protected and do not require any standby media due to its ring structure. However, it was observed in the ETR (June and July 2008) that microwave link on 37 routes were kept as standby despite availability of OFC ring.

b) Non-commissioning/non-utilisation of microwave system resulted in idling of network

Fourteen microwave systems (seven diverted by ETR to North East circles¹ but not taken over and another seven diverted from Southern Telecom Region (STR) to North Eastern circles) were lying idle in ETR. Further, 11 microwave systems which were closed due to introduction of OFC media, were yet to be diverted or scrapped in ETR.

c) Non-implementation of recommendations of the committee set up for review of the utility of microwave routes

The Company formed a committee to study the utilisation of microwave links. On the basis of the Committee's recommendations, the Company categorised (March 2005) these links into four categories and directed its field offices for closure of microwave

¹ One to North East I circle, four to North East II circle and two to North East Task Force circle.

links falling under categories III² and IV³. However, in ETR, it was noticed that 10 microwave routes falling under categories III and IV were still in operation instead of being decommissioned.

Recommendation No. 2.2

The Company should review the implementation of its own directives regarding utilisation of microwave systems in the ETR.

2.9 Information Technology Audit of DotSoft package in BSNL

The DotSoft package was introduced in September 1998 as an integrated telecom database system for commercial, billing, accounting, fault repair and directory enquiry services.

The audit of this package was conducted in July 2004 covering the period from September 1998 to July 2004. At the time of audit, the package was functioning in 76 Secondary Switching Areas (SSAs) under 13 telecom circles out of 332 SSAs in 26 circles of the Company. Audit selected 35 SSAs in 10 circles for detailed scrutiny.

The primary objective of this audit was to examine the effectiveness of the functioning of the software package, maintenance of data integrity, incorporation of rules and regulations as per codes and manuals and also to evaluate and test the effectiveness of general IT controls specific to the computerised database system operated by the Company, ensuring non-leakage of revenue.

The original major audit observations and recommendations were as follows:

- The package could not eliminate un-addressed bills with the result that bills worth Rs.39 crore were lying in the database in 33 SSAs of eight telecom circles from the year 2000 onwards. The package also did not have checks to ensure that changes in exchange capacity, tariff and interest rates had been regularly updated. This resulted in short billing of Rs.72.87 lakh and excess payment of interest of Rs.7.55 lakh. Audit recommended that the DotSoft package should be redesigned to take care of un-addressed bills and to ensure regular updation of data in respect of tariff changes. The package should also ensure that proper audit trails were created by the system to ensure that changes were duly recorded and authorised.
- There was no provision for checking of unbilled trunk call tickets, resulting in tickets worth Rs.37 lakh lying unbilled in eight telecom circles. There was also no provision for calculation of *pro-rata* rent.
- There was no provision for reconciliation of calls metered in the exchanges and actually billed for, so as to prevent leakages. Audit recommended that the package should be redesigned to reconcile calls downloaded from the exchanges and billed for. It should also generate Management Information System reports so that reliance on manual methods was avoided.
- System resources were not utilised for immediate disconnection of telephone connections and sub-ledger accounting was being done manually.

² *Microwave routes which were working as standby media to OFC links and being used occasionally.*

³ *Microwave routes which were not being used at all for traffic.*

- No monitoring measures were in place to prevent data manipulation and tampering. Audit recommended that there should be a mechanism to control and monitor the activities of Data Base Administrator. Internal systems audit should be regularly carried out to ensure that confidentiality and integrity aspects of the IT system were not put to risk.
- There was no IT Security Policy or a documented Disaster Recovery and Business Continuity plan. Audit recommended that proper Disaster Recovery and Business Continuity plan and an IT Security Policy should be framed and made available to all the SSAs and staff.

2.9.1 Action taken by the Company

Out of 26 paras in the review, 13 paras had been vetted and balance 13 paras were pending (as of 31 August 2008) for want of reply from the Ministry. In the ATNs submitted by the Company through the Ministry it was assured that necessary instructions had been issued (June 2005) to the circles for rectifying the deficiencies pointed out by Audit.

It was stated in the ATNs that:

- the DotSoft package had been modified to calculate rent on pro-rata basis and also to tackle the problem of unaddressed bills
- instructions had been issued to all the circles for mandatory updating of master data in respect of installation charges and interest rates
- guidelines on security for Wide Area Network of the Company had also been made available to prevent data manipulation and tampering

Audit, however, noticed that the deficiencies still persisted as brought out in the next paragraph.

2.9.2 Current audit observations

During test check (June and July 2008) of records in the selected SSAs of four territorial circles, it was noticed that no action had been taken by the telecom circles to implement the remedial measures in the cases mentioned below:

a) Reconciliation of metered calls and calls billed

Reconciliation of metered calls of telephone exchanges and calls billed for in a particular billing cycle was required to be done through Call Data Record (CDR) based billing system to check the leakage of revenue. However, the system had not been introduced in any of the SSAs selected for audit.

b) Unaddressed bills

Though DotSoft package was re-designed to tackle the problem of unaddressed bills, the same continue to be generated in 11 SSAs under Gujarat, Karnataka and Orissa telecom circles.

c) Calculation of pro rata rental for shifting cases

There was no provision in the system to calculate the rent on *pro-rata* basis and generate one bill in case of shifting of telephone connections from rural to urban areas or vice-

versa, resulting in short realisation of revenue in respect one SSA of UP (West) telecom circle.

d) Non implementation of periodical audit of IT system of DotSoft package

To ensure confidentiality and integrity aspects of IT system, internal audit of the system should be carried out regularly. In the ATN, the Ministry had stated that Internal Audit Software was proposed to be developed using which periodical audit of IT systems would be done. However, it was observed that the system had not been developed. It was stated (July 2008) by the Management that the system was under development and likely to take a year.

Recommendation No. 2.3

The Company should ensure that modifications made in the DotSoft software are implemented uniformly across all units.

2.10 Performance audit of Cellular Mobile Telephone Services in BSNL

The introduction and expansion of Cellular Mobile Telephone Services (CMTS) was one of the major components in the Tenth Plan and the Company was expected to be a major national player in these services. A large scale country wide roll-out of CMTS on commercial basis was done by the Company in October 2002.

The performance audit of CMTS in the Company covered various activities relating to planning, procurement, delivery, installation, acceptance testing, commissioning; utilisation and operational performance; billing, collection and accounting of revenue; customer care and quality of services provided to customers covering the period from 2001-02 to 2005-06.

The audit objective of the performance audit of CMTS was to assess the efficiency, economy and effectiveness of various activities relating to the initial launch and subsequent expansion of CMTS services.

The original major audit observations and recommendations were as follows:

- Non-achievement of operational targets in capacity building for provision of CMTS connections was noticed. Audit recommended that the Company should expedite the procurement process to avoid delays in setting up of CMTS systems and consequent loss of customer base. Further appropriate strategies should be prepared for ensuring optimum utilisation of the equipped capacity.
- Quality of CMTS remained unsatisfactory due to poor network coverage, system failures, non-attendance of customer complaints, *etc.* Besides, the Company was unable to meet the service quality benchmarks prescribed by the Telecom Regulatory Authority of India (TRAI). Audit recommended that performance of customer care centres should be monitored and adherence to quality of service norms fixed by TRAI ensured to avoid risk of migration of customers from the Company.
- Delays of upto two years in handing over sites to vendors for installation and commissioning of CMTS equipment and execution of annual maintenance contracts was noticed in several circles. In many cases CMTS sites were operated without obtaining mandatory clearance from the Standing Advisory Committee

on Frequency Allocations. Audit recommended that time schedules should be prescribed in advance for various activities to be undertaken by the circles for creation of infrastructure and for handing over of sites to vendors for installation and commissioning of CMTS equipment.

- Delays were noticed in implementation of threshold servers for monitoring credit limits of the customers, timely billing, auto disconnection facility and prompt recovery of billed amounts from post-paid customers.
- Inadequate disaster recovery plan and access controls for CMTS billing centres.
- The Company failed to levy/recover penalty from vendors for delays in rectification of faults during warranty/AMC periods.

2.10.1 Action taken by the Company

Out of 41 sub-paras in the review, 26 paras had been vetted and ATNs for 15 paras were pending as of August 2008 from the Ministry. However, ATNs had not been received in respect of any of the audit recommendations.

In the ATNs submitted by the Company through the Ministry, it was assured that necessary instructions had been issued (March 2008) to the circles for addressing the audit observations. The specific action taken/replies to the audit observations/recommendations, as intimated in the ATNs, includes the following:

- The capacity utilisation of CMTS systems till March 2007 was 101.55 per cent.
- The Company had started maintaining data on surrender of CMTS connections by customers and disconnections due to non-payment.
- A high powered committee was constituted to decide the amount to be recovered from vendors for non-rectification of faults during warranty period.

Audit, however, noticed that the deficiencies still persisted as brought out in the next paragraph.

2.10.2 Current audit observations

During test check (June and July 2008) of records in the selected SSAs of four territorial circles, it was noticed that remedial measures, as assured by the Company, had not been taken in the cases mentioned below:

a) Non-implementation of credit limit and auto disconnection

Despite fixation of credit limit for cellular mobile subscribers, auto-disconnection of outgoing calls was not implemented for subscribers beyond the credit limit in seven SSAs test checked under Gujarat and UP (West) circles. This resulted in accumulation of arrears of revenue to the extent of Rs.49.49 lakh.

b) Non implementation of Disaster Recovery Plan

“Disaster Recovery Plan” to safeguard the system and data in the event of unforeseen circumstances had not been implemented by the Company for its CMTS billing centres, although the revenue from CMTS was Rs.10,578.89 crore for the year 2008-09.

c) *Non-maintenance of data of customers*

The data on surrender and disconnections of cellular mobile connections due to non-payment, etc. was required to be maintained separately to analyse the reasons for losing customers. However, no such separate database was maintained in seven SSAs test checked in Gujarat and Orissa circles.

Recommendation No. 2.4

ATNs in respect of audit recommendations made in the performance audit on CMTS have not been received. The Audit Report was laid in the Parliament in April 2007 and such belated submission of ATNs relating to audit recommendations would not serve any purpose. The mobile telephony has already moved from 2G to 3G cellular telecom networks and in the rapidly changing telecom scenario the Company has to take swift action on the Audit recommendations to gain benefit out of it.

2.11 Conclusion

After the detailed audit probe and data analysis of the ATNs submitted by the Ministry/Company relating to three selected reviews it was found that there was lot of scope for improvement in the timely submission of ATNs and compliance to the audit observations and recommendations at the field level.

None of the ATNs submitted were within the prescribed time schedule of six months from the date of presentation of the concerned Audit Reports in the Parliament. As of August 2008, out of 86 ATNs due for submission by Ministry/Company, 30 ATNs pertaining to the three reviews selected for follow up were pending.

The Company, while submitting ATNs, had given assurances to take appropriate measures in implementing the audit recommendations and addressing audit observations. It had issued instructions to its field units/circles for rectifying the deficiencies. While some corrective action had been taken by the Company, especially in cases of revenue recoveries, but in a number of cases action was either pending or ineffective at the field/circle level. Consequently the entire audit exercise and action taken by the Ministry/Company has not yielded the best results.

At present the ATNs are submitted by the Company's Corporate office to the Ministry and sent to the C&AG for vetting. In order to make this entire process effective and to have accountability on the assurances given in the ATNs, the confirmation of the same from the concerned Heads of Departments at the Corporate office/telecom circle level as well as the concerned Internal Auditors could be appended to the ATNs. This would go a long way in providing assurance to all the stakeholders regarding Management action on audit paras placed in the Parliament.

The matter was reported to the Ministry in December 2008; reply was awaited.