REPORT OF THE
COMPTROLLER AND AUDITOR GENERAL
OF INDIA

FOR THE YEAR ENDED 31 MARCH 1990

NO. 7 of 1991

UNION GOVERNMENT (POSTS AND TELECOMMUNICATIONS)

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GLOSSARY OF TERMS AND ABBREVIATIONS

Analogue	An electrical signal which is analogous to changing physical quantity measured
Bits	Binary digits of 1 or 0, used to code information
Coaxial Cable.	A cable basically consisting of a single wire in the centre of a cylindrical conductor used for carrying a large number of telephone channels
Crossbar Exchange	A telephone exchange with common control elements; the cross points in the switch are made by the operation of two bars- horizontal and vertical
C.DOT	Centre for Development of Telematics
Data Modem	A device used in data transmission over telephone lines which will condition the signals containing data so that they can travel on telephone lines
DEL	Direct Exchange Line
Digital Exchange	Unlike the conventional exchanges, whether electro-mechanical or electronic, where the calling and called subscribers are connected together over an individual pair of wires for the total duration of the call, they timeshare a speech highway with several other conversations in the digital exchange. This is possible since only a small proportion of the total connection time is actually utilised for conveying the message. Speech signals are regularly sampled and the amplitude of samples is converted into a digital code and transmitted on the line. Between two digital signals of the same conversations, signals of other conversations are interleaved. The digital exchange suitably directs the differnt signals coming on the same highway. The new technique could be of interest in local switching in rural areas
Digital Signal	A signal which carries the information in the form of on/off pulses
Giga Hertz or GHz	One billion Hertz
Hardware	The term hardware generally refers to the physical equipment of the computer system. Hardware is something which one can touch and feel
Hertz or Hz	For cycle per second, named after Henrich Hertz
Inverters	Battery operated generators

ITT	Incoming Trunk Tandem
KVA	Kilo Volt Ampere
Megahertz or MHz	One million hertz
Microwave	Radiowave above 1000 MHz which travels straight as lightwaves, used for transmission of telecommunication signals
MAX	Multiple Automatic Exchange
Multiplexing	A method by which several circuits are combined for transmission over a common transmission path
Narrowband	Microwave/cable systems which carry a large number of voice channels, generally upto 300
Optical Fibre	Extremely thin and pure glass fibres which are used to guide lightwaves without loss in transmission
OYT	Own Your Telephone
P.B.X.	Private Branch exchange
P.A.B.X.	Private Automatic Branch Exchange
30+300 PABX	It indicates the number of junctions and extensions of a PABX
PERT Chart	Programme evaluation and review technique chart, used for monitoring progress of execution of a project.
Power Factor	The ratio of power actually consumed to that drawn from the supply system
PRX	Type of containerised electronic exchange
Pulse Code Modulation	A method of modulation, where the amplitude of the (P.C.M.) original (speech) wave is sampled and the values of samples are converted into 1's and 0's, positive and negative pulses, for transmission
Repeater	The signals carried by the coaxial cable need boosting at regular intervals, so repeaters are installed to boost the signals
Sq.ft.	Square foot (feet)

Software	Programmes (for utilisation of computer hardware to discharge different functions/applications) are normally referred to as software. It tells the hardware what to do and drives the hardware to perform various functions
	Subscriber Trunk Dialling
Strowger Excnange	Telephone exchange named after its inventor, Almond Strowger, which sets up the calls on step-by-step basis
TAX	Trunk Automatic Exchange
Teleprinter	A teleprinter is a printing telegraph apparatus to transmit and receive messages
Telex	Teleprinter exchange
Terminal	Common name for the end equipment like telephones, TV and data display panels
UHF	Ultra High Frequency radio link in the range of 300-3000 MHz (generally used on low traffic routes till regular microwave stations come up)
VHF	Very High Frequency links, set up by radiowaves in the range of 30-300 MHz, ideally used for mobile communications
Voice Frequency (VFT)	The range of frequency used in telephone, viz., 300-3400 Hz

PREFATORY REMARKS

This Report for the year ended 31 March 1990 has been prepared for submission to the President under Article 151 of the Constitution. It relates mainly to matters arising from the Appropriation Accounts of the Departments of Posts and Telecommunications under the Ministry of Communications for the year 1989-90 together with other points arising from test audit of the financial transactions of the two Departments.

2. This Report includes, among others, reviews on :

Department of Posts

(a) Departmental Printing Press at Bhubaneshwar

Department of Telecommunications

(b) In-house computers in four metropolitan telephone districts

(c) Jorhat - Kohima - Imphal digital microwave scheme

(d) Ratlam - Mandsaur coaxial cable scheme

(e) Bellary - Hospet - Koppal coaxial cable scheme

(f) Ahmedabad telephone system

(g) Installation of digital trunk automatic exchange at Cuttack

3. The cases mentioned in this Report are among those which came to notice in the course of audit during the year 1989-90 as well as those which had come to notice in earlier years but could not be dealt with in previous Reports. Matters relating to the period subsequent to 1989-90 have also been included, wherever considered necessary.

The Audit Report for the year ended 31 March 1990 contains 54 paragraphs including seven reviews. The points highlighted in the Report are given below:

Department of Posts

I. Financial and physical performance

The Department of Posts had a deficit of Rs.263 crores in 1989-90, compared to Rs.170 crores during the previous year. The Indian Postal System was, by and large, covering its costs till 1963-64. Thereafter, except for 1979-80, annual deficits have been mounting.

While the revenue receipts increased by 47.4 *per cent* from Rs.477 crores to Rs.703 crores between 1985-86 and 1989-90, the revenue expenditure increased during this period by 50.9 *per cent*, from Rs.640 crores to Rs.966 crores. For every one hundred paise realised towards providing the postal services, the Department had spent 137 paise in 1989-90.

The Department is losing on all the services except letters which also showed marginal gain of three paise per letter. The postal traffic in certain high value categories is, generally, on the decline over these years. The Ministry stated that it was trying to attract more business by making its services more efficient.

Against the approved outlay of Rs.295 crores for the Seventh Five Year Plan, the funds provided amounted to Rs.221 crores. The Department, however, utilised Rs.174 crores, i.e., 78.7 *per cent* of the budget provision. The major slippage was in respect of mechanisation and modernisation (Rs.30 crores) and expansion of postal network (Rs.8 crores).

The Department was not able to achieve fully, any of the physical targets set for the Seventh Plan.

(Paragraph 1)

II. Departmental Printing Press at Bhubaneshwar

An offset printing press for printing of essential forms was established at Bhubaneshwar in December 1986 at a cost of Rs.270 lakhs. Structural shortcomings in the design of the press building and other avoidable factors caused delay of 15 months in its construction besides necessitating payment of escalation charges amounting to Rs.7.33 lakhs. The four printing machines worked at only about two thirds of their capacity and the actual production of the press in two shifts was around one half of the envisaged production. The press was, therefore, not able to meet more than 60 *per cent* of the demand from Orissa and two neighbouring Circles. A systematic study of the manpower requirement had not been made yet and norms for quantum

of output per workman had not been fixed. Cost control measures had not been introduced. The press failed to get the guaranteed demand for electricity reduced in the light of consistently low consumption, leading to infructuous expenditure.

(Paragraph 3)

III. Imported franking machines

The Department imported from a Swiss firm 60 high speed franking machines in October 1985 and September 1987 at a cost of Rs.20.40 lakhs and distributed the machines among the 50 post offices in the country. While each machine was capable of franking 56000 articles in a working day of seven hours, the Department fixed a much lower target of franking 10000 articles per machine per day. However, the average number of articles franked by each machine was only 2480 articles per day in 1988-89 and 5381 during 1989-90, much below the target fixed and far lower than the machine capacity, not bringing in the saving in cost of printing, handling and storage of stamps and labour each machine was capable of. Thus, machines imported at considerable cost were being underutilised.

(Paragraph 4)

IV. Fraudulent payment of higher rent for office accommodation

Without inviting competitive offers as required, the Postmaster General, Maharashtra Circle, Bombay acted on an offer received from a private party and took on rental a private building at Kalyan from February 1984. Against a monthly rent of Rs.3.00 per sq.ft., recommended by the Fair Rent Committee, and even the rate of Rs.4.25 per sq.ft. demanded by the party, lease deeds at still higher rates of rent, varying from Rs.4.91 to Rs.6.05 per sq.ft., were executed. This entailed extra expenditure of Rs.11.81 lakhs with reference to the rate recommended by the Fair Rent Committee and Rs.6.72 lakhs with reference to the rent demanded by the party. Besides, the Department incurred unnecessary expenditure of Rs.4.43 lakhs by way of rent for accommodation that was not needed.

(Paragraph 5)

V. Hiring of an accommodation at Bombay

Due to acceptance of rental with higher than the recommended weightage in respect of the premises taken on rental at Vile Parle in Bombay, the Department incurred extra expenditure of Rs.5.06 lakhs during the last eight years (upto January 1991) and would incur an additional extra expenditure of Rs.1.26 lakhs till the termination of the lease period in January 1993.

(Paragraph 6)

VI. Postal Services in rural areas

Nearly 75 *per cent* of the funds available during the Seventh Five Year Plan for expansion of postal services in the rural areas had not been utilised, resulting in non-achievement of the physical targets fixed for the purpose.

Against the Seventh Plan outlay of Rs.10.10 crores, the budget allotment during the five years was Rs.8.25 crores, while the actual expenditure was Rs.2.21 crores. Only 3007 new post offices could be opened during the five year period 1985-90 against 6000 planned. And 9732 letter boxes were installed during 1988-90, against 25000 planned, for want of letter boxes, due to advance action not being taken to ensure their timely availability.

(Paragraph 9)

Department of Telecommunications

VII. Financial and physical performance

The Department of Telecommunications attained a surplus of Rs.1058 crores for the year 1989-90 which fell short of the Revised Estimate by Rs.35 crores though the surplus exceeded the budget expectation of Rs.978 crores by Rs.80 crores.

At the budget estimate stage, the revenue receipts were overestimated by Rs.139 crores, while the net working expenses also came to be overestimated by a much higher margin, viz., Rs.201 crores.

Utilisation of the equipped capacity of telephone exchanges had remained stagnant over the last four years, at around 87 *per cent*, as against 92 *per cent* generally expected. The number of persons on the waiting list for telephone connections has increased from 11.25 lakhs in 1987 to 17.17 lakhs in 1990.

While the Department was able to fulfil the targets for the Seventh Five Year Plan in respect of provision of 16 lakh telephone connections by March 1990, switching capacity, STD dialling routes, UHF 30 channel and above, and open wire channels, it failed to do so in respect of underground cables, trunk automatic exchanges, trunk boards, microwave routes, telex capacity and optical fibre cable. The shortfall in respect of optical fibre cable was quite significant as only 2323 route kilometres was laid against the target of 20501 route kilometres.

(Paragraph 10)

VIII. Arrears of telephone revenue and rent of circuits

Arrears on account of telephone revenue were, generally, on the rise during 1986-87 to 1989-90, both in absolute terms and as a percentage of the total demand. The increase was from Rs.45.44 crores (3.68 *per cent*) to Rs.206.22 crores (5.61 *per cent*). While the total demand increaed by 129 *per cent* during this period, the arrears registered an increase of 250 *per cent*. Further, about 62 *per cent* of the arrears exceeding Rs.5000 in each case pertained to non-government/non-institutional subscribers.

Arrears of rent of telegraph/telephone and teleprinter circuits during the three years (1987-90) rose from Rs.15.54 crores to Rs.21.90 crores and those of telex/intelex charges increased from Rs.1.45 crores to Rs.2.78 crores in spite of the

fact that these arrears are reviewed periodically at different levels, viz., District, Circle and by the Department of Telecommunications itself. 31 *per cent* of the above arrears on account of rental and call charges pertained to private subscribers and news agencies.

In spite of check of receipts by the Internal Check Organisation of the Department, test check by Audit during 1989-90 brought out short/non-recovery of about Rs.4.58 crores in a large number of cases mainly due to non-application of the prescribed/revised tariff rates, want of advice notes after execution of the work and non-revision of estimates.

(Paragraphs 12 - 24)

IX. In-house computers in four metropolitan telephone districts

The proposal to establish departmentally run in-house computer systems in the four metros, Bombay, Calcutta, Delhi and Madras, was approved by the Government in July 1981. The estimated cost of Rs.537 lakhs was revised to Rs.1366 lakhs in April 1985. Expenditure booked till March 1990 aggregated to Rs.1583 lakhs.

The Department took over four years to place the purchase orders for the computers due to deficiency in the initial tendered specifications of the equipment to meet the intended functions adequately. This entailed avoidable additional cost of Rs.146 lakhs due to variation in exchange rate and price escalation, apart from the Department continuing to spend Rs.105 lakhs *per annum* on private computer hire.

After receipt of the computers, there were delays of varying periods in their utilisation for the intended purposes.

Due to failure of the Department to develop standardised software for the telephone billing even after a lapse of over three and a half years of commissioning of the computer at Bombay, it continues to employ hired software for that purpose besides leaving the billing of telex, private wires, circuits and non-exchange lines uncomputerised. Even the use of hired software on the in-house computer for telephone billing was delayed by six months at Bombay and Calcutta. Consequently, the anticipated benefits did not accrue and Rs.18.84 lakhs had to be spent on computer hire during the six months.

With the installation of the in-house computer, the Department had envisaged a reduction in the billing cycle by two to three weeks resulting in speedier realisation of revenue. In Bombay, the billing cycle has been advanced by a week, from February 1990. But in Calcutta, Delhi and Madras there has been no reduction in the billing cycle, though billing on the in-house computer was introduced there between September 1986 and April 1987. As a result, the Department was mostly deprived of the envisaged interest benefit of Rs.111 lakhs *per annum*, based

on 1982-83 revenue figures, through speedier realisation of revenue.

Despite commencement of billing on the in-house computer from September 1986 - April 1987, proportion of outstanding telephone dues to total demand was, generally, on the rise, instead of being on the decline, during 1987-90 vis-a-vis the position prior to 1986-87 in Bombay, Calcutta and Madras, while in Delhi, there was a marginal improvement. As such, the benefit of speedier realisation of dues as anticipated on account of computerisation had not materialised.

There were delays at one or more of the four metros in use of in-house computer for directory compilation and printing, inventory control, cable and commercial records and commercial systems.

In Calcutta, store accounting and inventory control were being done on separate mini-computers instead of in-house computer. In the remaining three metros, these functions were yet to be introduced on the in-house computer.

The cable data base has been fed into the system partially in the four metros with the result that improvement and speed in processing of complaints and fault clearance has not materialised to the extent expected.

The delay of nearly two years in the final acceptance of the directory enquiry software by Bombay Telephones led to similar delays at the three remaining metros.

Due to inadequate memory provision and processing speed of the main computer, the on-line fault control system had to be off-loaded from it and put on to separate mini-computers resulting in an additional expenditure of Rs.264.03 lakhs. Further, in the absence of a full fledged cable data base, benefits from the application of this system would be limited till such data are fully recorded. Even after off-loading the on-line fault control system from the in-house computer it could not cater to the remaining applications adequately and had to be upgraded within five years involving an expenditure of Rs.189.81 lakhs in Bombay, Calcutta and Delhi.

Injudicious selection of a computer model in 1985 that could not cater to the intended requirements in preference to a better alternative available then, led to an avoidable overall expenditure of Rs.377.01 lakhs.

With the installation of the in-house computer, there was no need for setting up of the Regional Billing Centre in Madras in September 1987 involving an expenditure of Rs.87.95 lakhs. The Billing Centre also remained unused for billing purposes since inception.

(Paragraph 26)

X. Jorhat - Kohima - Imphal digital microwave scheme

The scheme, sanctioned in July 1985 at an estimated cost

of Rs.361.97 lakhs, was to be commissioned by 1987-88. The resurvey of the route in January-March 1988 brought out that the original estimate had not been prepared properly. Two of the three sections of the system, viz. Dimapur - Kohima and Kohima - Imphal, could be commissioned only in March 1989 while the third section (Jorhat-Dimapur) had not yet been commissioned. There had been a cost overrun of 72 *per cent*. Equipment costing Rs.113.84 lakhs remained unutilised for over 18 months. Coaxial cable costing Rs.14.62 lakhs, though not required, was procured and was lying unutilised. While Rs.18.30 lakhs were spent on procuring materials for a 100 metre heavy weight tower at Sarupathar and the needed foundation therefor, the erection of tower was held in abeyance since the existing 60 metre tower was considered to be adequate for the purpose, rendering the above expenditure unfruitful. Even after a lapse of more than six years since the project was conceived and after investment of Rs.622.33 lakhs made on it, the very objective of providing better communication facilities in the North Eastern Region, and linking district headquarters there, had not been achieved fully.

(Paragraph 27)

XI. Ratlam- Mandsaur coaxial cable scheme

This scheme was approved in May 1978. The project estimate sanctioned in March 1980 for Rs.127.50 lakhs envisaged completion and commissioning of the scheme by the end of 1981-82. Due to failure of the Department to take adequate and timely action in regard to construction of buildings and procurement of cable and certain items of the equipment, the commissioning of the scheme was delayed by about four years. Its cost has also risen by more than two times to Rs.291.43 lakhs. Though the system was expected to earn a revenue of Rs.78.93 lakhs *per annum*, it actually incurred a cumulative loss of Rs.88.51 lakhs till 1988-89 (and made a nominal profit of Rs.0.33 lakh in 1989-90) due mainly to unrealistic traffic projections made by the Department. Only 162 channels out of 600 had been utilised.

(Paragraph 28)

XII. Bellary - Hospet - Koppal coaxial cable scheme

This scheme was approved in November 1979. The project estimate sanctioned in May 1981 for Rs.156.23 lakhs envisaged commissioning of the scheme in 1982-83. Lack of proper planning and coordination amongst the various wings of the Department in regard to construction of buildings, procurement and laying of coaxial cable along the route and voice frequency cable for connecting the coaxial stations and the local exchanges delayed commissioning of the system by about three years. There had been a cost overrun of 110 *per cent*, from Rs.156.23 lakhs to Rs.328.47 lakhs. Even after four years of commissioning, the system was being underutilised. Only 107 channels out of 228 channels were being utilised. Though the system was expected to earn annually a net revenue of Rs.44.73 lakhs, it has in-

curred loss aggregating to Rs.142.79 lakhs till March 1990 due mainly to unrealistic traffic projections made by the Department.

(Paragraph 29)

XIII. Ahmedabad telephone system

This system had equipped capacity of 151700 telephone lines with 25513 subscribers on the waiting list for connections as on 31st March 1990. Underutilisation of the equipped capacity deprived those on the long waiting list of the needed service, apart from loss of potential revenue of Rs.10.56 crores approximately over the five years ended March 1990.

The ineffective trunk calls entailed loss of revenue of nearly Rs.1.68 crores during these five years. The actual revenue per direct exchange line was less than the targets fixed, the shortfall amounting to Rs.12.40 crores during 1985–90. Investment of Rs.34.61 crores on expansion of the electronic digital exchange for Naranpura which was envisaged to yield a net return of Rs.1.48 crores *per annum* turned out to be a losing venture, incurring a net loss of Rs.2.18 crores during two years ended March 1990.

(Paragraph 30)

XIV. Installation of digital trunk automatic exchange at Cuttack

A 1000 line digital trunk automatic exchange at Cuttack was commissioned in January 1988, ten months behind schedule due to Department's inability to arrange for the needed tools and installation staff and to complete the environmental works in time. This delay led to loss of potential revenue of Rs.73.31 lakhs. The actual cost of the project registered an increase of over 25 *per cent*, to Rs.383.60 lakhs from the estimated cost of Rs.306.67 lakhs. Even after incurring an expenditure of Rs.17.79 lakhs on installation of a separate transformer sub-station and the feeder cable, the Department was yet to arrange and provide adequate power supply for the exchange although it was commissioned more than two years back. There had been delay of over two years in installation of the central air conditioning plant, and, after installation, the plant costing over Rs.25 lakhs had not been put to optimum use. Logistical failures contributed to the under-utilisation of the capacity of the exchange. As against the projected revenue of Rs.87.97 lakhs *per annum*, actual revenue in 1988-89 and 1989-90 was Rs.35.61 lakhs and Rs.53.23 lakhs only, shortfall being due to traffic flowing through the system being less than that anticipated.

(Paragraph 31)

XV. Air compressors

Calcutta Telephones purchased 77 compressor drier units, imported as well as indigenous, at a cost of over Rs.34 lakhs for being installed in all its 49 exchanges to reduce cable faults caused by ingress of moisture. Of the 28 indigenous units received in damaged condition, 12 procured in March 1985 and

costing Rs.5.93 lakhs were still un-serviceable, while eight exchanges went without such units.

(Paragraph 32)

XVI. Delayed procurement of modems

Because of time lag between receipt of firm demand from the customers in June 1979 for renting of data modems and their being made available, after import, in October 1983, they were found to be incompatible with the requirements of customers and advancement of technology. Only 43 out of the 162 numbers imported at a cost of Rs.76.57 lakhs were lifted by the customers. Allowing the customers meanwhile to use their own modems despite procurement of the modems by the Department against firm demand from them led to their under-utilisation.

(Paragraph 34)

XVII. Delay in occupation of rented accommodation at Calcutta

In May 1987, Calcutta Telephones took possession, on rental, of the fourth and fifth floors of a private building for accommodating some of its offices. However, the concerned offices could occupy the premises five months later, due to delay on the part of the Department in attending to minor items of civil and electrical works. The rent for the unoccupied period, which was mostly avoidable, amounted to Rs.5.82 lakhs.

(Paragraph 36)

XVIII. Delay in providing telecommunication facilities

Despite departmental instructions that telecommunication facilities asked for on rent and guarantee terms should be provided without undue delay, and that the time frame for execution of related works be settled while dealing with facilities sought by the Defence authorities, cases were noticed where they were provided to the Defence authorities after delays ranging from one to eight years. The delays occurred mainly due to not carrying out the survey of the available accommodation, delay in quoting rent and guarantee terms as well as sanctioning of estimates, and belated supply of equipment and stores. In one case, the Air Force authorities cancelled the firm demand after a period of six years, because of delay, and got the facility installed from an outside agency.

Similarly, there was delay of two years in providing telecommunication facilities required by the All India Radio (AIR), Bhadrawathi and six years in the case of AIR, Sangli. The delay at Bhadrawathi was because of non-provision of loading coils costing Rs.0.11 lakh and not adopting the proper system of jointing, while at Sangli, the underground cable requisitioned by AIR in May 1984 had not been provided so far (September 1990).

In yet another case, of a hotel at Satara, there was unexplained delay of more than

seven years in installing a small Private Automatic Branch Exchange of 100 lines.

(Paragraphs 39 - 45)

XIX. Koppal - Gadag coaxial cable scheme

This scheme was sanctioned in March 1984 for Rs.88.20 lakhs for completion by March 1986. However, it was commissioned only in March 1989 due to belated placement of order for equipment on Indian Telephone Industries Limited, and also its inability to ensure timely supply. Equipment costing Rs.12.46 lakhs were procured in excess of requirement of the project and those costing Rs.3.16 lakhs were not installed and the installed equipment costing Rs.4.24 lakhs were not utilised. Due to far less traffic flowing through the system, the project incurred a loss of Rs.8.85 lakhs during 1989-90 as against the envisaged net revenue of Rs.11.52 lakhs *per annum*.

(Paragraph 49)

XX. Premature expansion of trunk automatic exchange at Jaipur

The expansion in March 1987 of the trunk automatic exchange (TAX) at Jaipur from 2000 to 3000 lines involving an investment of Rs.135.12 lakhs turned out to be a losing proposition, with only 1734 of 3000 lines being utilised even three years thereafter. The Department has to spend Rs.26 lakhs *per annum* on its maintenance instead of realising the envisaged net revenue of Rs.35.79 lakhs. Non-availability of media and switching equipment to/at distant ends and commissioning of Jodhpur and Udaipur TAXs in 1988 with some stations meant to be parented to Jaipur TAX being parented to Jodhpur and Udaipur TAXs contributed to non-utilisation of the expanded capacity at Jaipur.

(Paragraph 50)

XXI. Avoidable payment of surcharge on electricity charges

The bills for consumption of electricity issued by the Calcutta Electric Supply Corporation Limited contained a standing advice to its consumers to avoid incurring surcharge, by raising the power factor to 95 *per cent* by installing power factor correction apparatus. A test check by Audit of payment of electricity charges by seven out of 54 telephone exchanges under the Calcutta Telephones indicated that non-maintenance of the required power factor by the Department entailed payment of surcharge of Rs.5.70 lakhs, apart from waste of energy. The Electrical Wing of the Department was not aware of this aspect.

(Paragraph 54)

DEPARTMENT OF POSTS

CHAPTER I

ACCOUNTS OF THE DEPARTMENT OF POSTS

1.1 Organisational set up

The Department of Posts is primarily responsible for collection, transmission and delivery of mails in the country, sale of stamps for postage and philatelic purposes, and handling money orders and postal orders. The Indian Postal System, going by the volume of mail handled, ranks today seventh in the world, next only to USA, UK, Germany, Japan, France and USSR. The Department also discharges certain functions of Government of India on agency basis, such as savings bank and other small savings schemes, postal life insurance, collection of customs duty on inward postal articles, disbursement of pension to railway pensioners and family pension to the families of employees of coal mines and industries covered by the Provident Fund Scheme.

The apex body of the Department is the Postal Services Board which is responsible for policy formulation and overseeing its implementation. Secretary, Department of Posts is its Chairman and is assisted by four members.

The operational set up* consists of three categories of post offices, viz., Head Post Offices (834), Sub - Post Offices (27,373) and Branch Post Offices (1,16,622). The other administrative units are Sorting Offices (556), Record Offices (434), Postal Stores Depots (46), Circle Stamp Depots (19), Postal Training Centres (5), Postal Staff College (1) and Dispensaries (55).

The staff strength of the Department at the end of March 1990 was 5.85 lakhs, comprising 2.87 lakh regular employees and 2.98 lakh extra-departmental employees.

The Expert Committee on Excellence in Postal Services, appointed by the Government in September 1987 to suggest measures for improving the efficiency and viability of the Department, had observed in its report:

"A significant characteristic of higher management of this Department is that it has no vision; it has no concept of a mission and it has not evolved for itself or for the lower formations any well-defined objectives except for opening of new post offices. In the absence of organisational objectives relating to quality of service and financial performance, no time-bound goals in respect of such objectives are set."

The Expert Committee suggested the following objectives for the organisation:

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* As on 31st March 1988

(i) Provide and maintain efficient, reliable and economical service;

(ii) Attain, within a period of five years, financial sufficiency in its operations;

(iii) Produce, within a span of 10 years, funds to finance its own development;

(iv) Ensure the availability of basic postal services in all parts of the country, including tribal, remote and hilly areas; and

(v) Provide an efficient national link in the international mail communication network.

The various recommendations made by the Expert Committee through its Interim Report in December 1988 and Final Report in September 1989 are understood to be under examination/different stages of implementation.

1.2 Operating results

The Indian Postal System was, by and large, covering its costs till 1963-64. Thereafter, except for 1979-80, the annual deficits have been mounting.

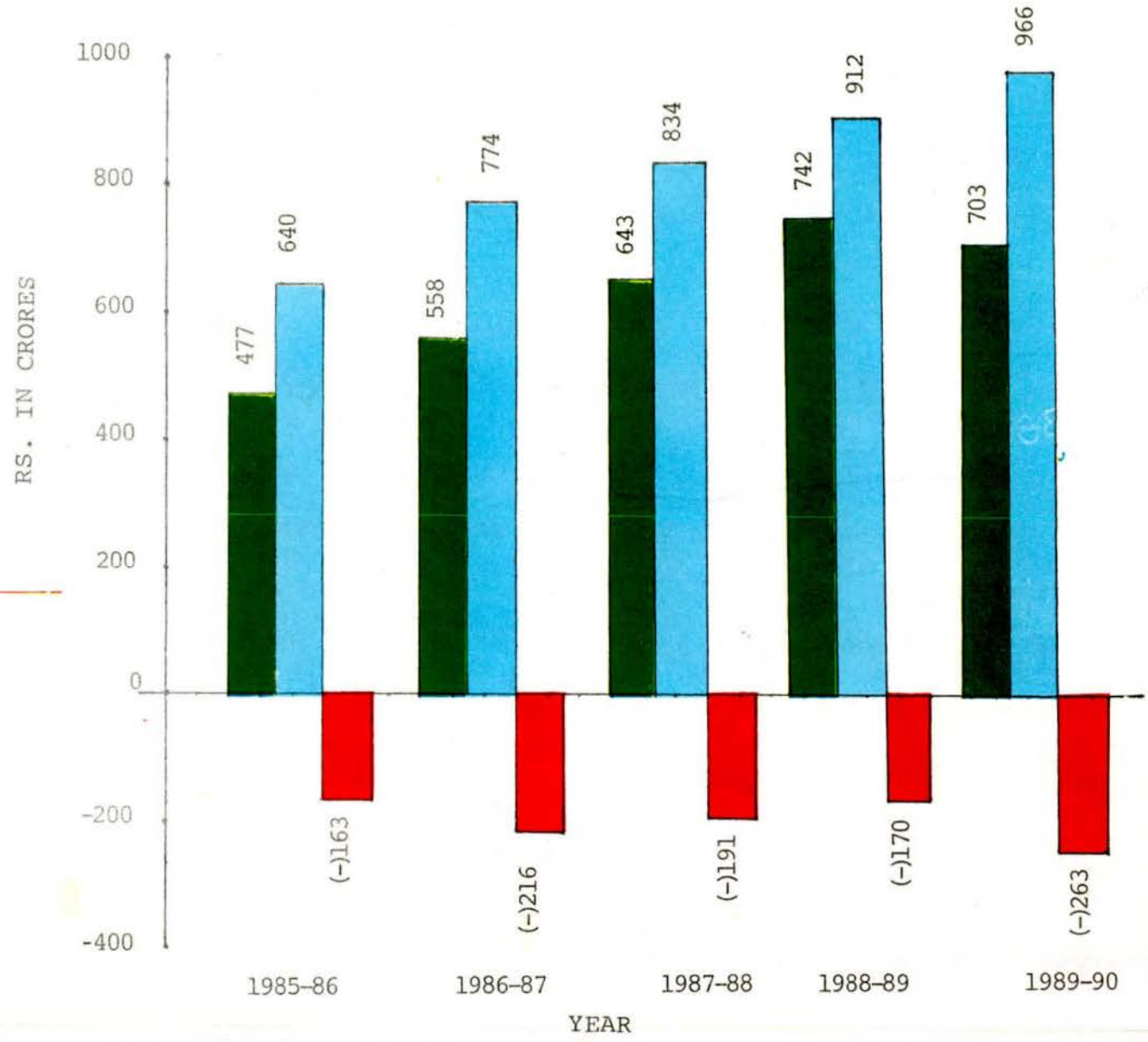
For 1989-90, against budgeted deficit of Rs.189.80 crores, the actual deficit was Rs.262.99 crores. The deficit was Rs.169.73 crores in the previous year. The deterioration in 1989-90 was mainly due to shortfall in receipts (Rs.97.41 crores) when compared with budget estimates. The shortfall was attributed by the Department mainly to non-acceptance of the demand of the Department in full by the Ministry of Finance for arrear claims of earlier years for small savings work done on agency basis. But the receipts in 1989-90 were lower than even the previous year's by Rs.39.21 crores despite the fact that there had been no reduction in tariff during 1989-90.

The Ministry stated, in January 1991, that the shortfall in receipts was also on account of the fall in traffic in specific areas for a variety of reasons.

The growth of revenue expenditure vis-a-vis receipts and the operating ratio (percentage of revenue expenditure to the revenue receipts) for the last five years are given below:

Year	Revenue receipts	Increase/ decrease(-) over the previous year	Revenue expenditure	Increase over the previous year	Revenue deficit	Operating ratio
			(Rs. in crores)			
1985-86	477	32	640	72	163	134.2
1986-87	558	81	774	134	216	138.7
1987-88	643	85	834	60	191	129.7
1988-89	742	99	912	78	170	122.9
1989-90	703	(-) 39	966	54	263	137.4

FINANCIAL RESULTS
DEPARTMENT OF POSTS

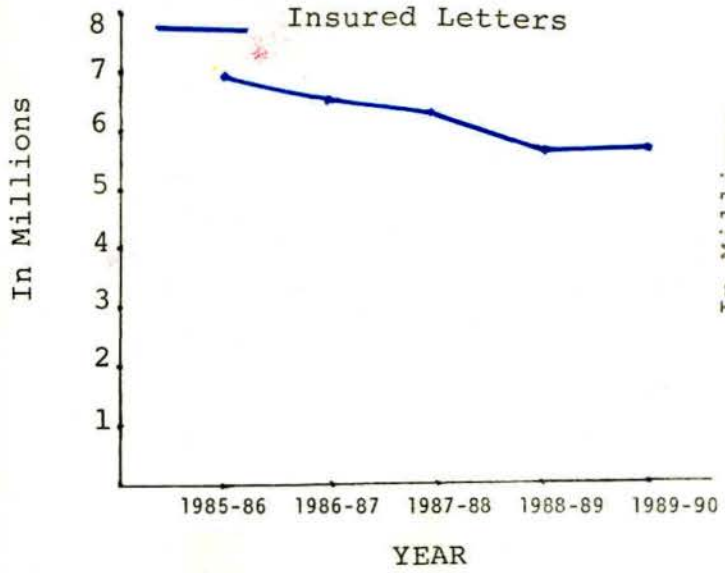


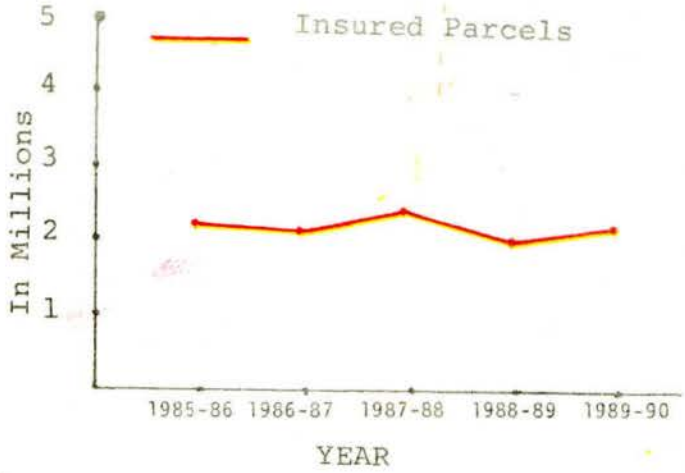
Revenue Receipts

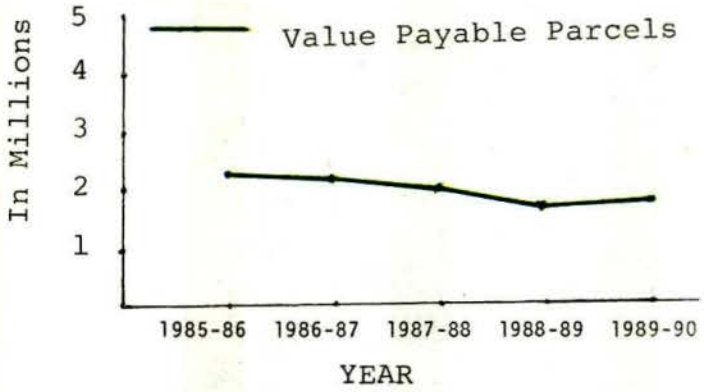
Expenditure

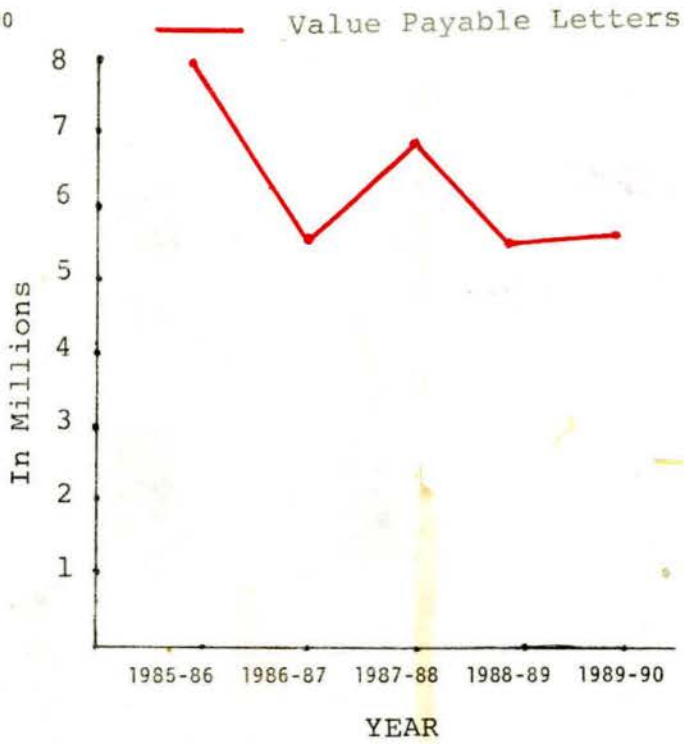
Deficits

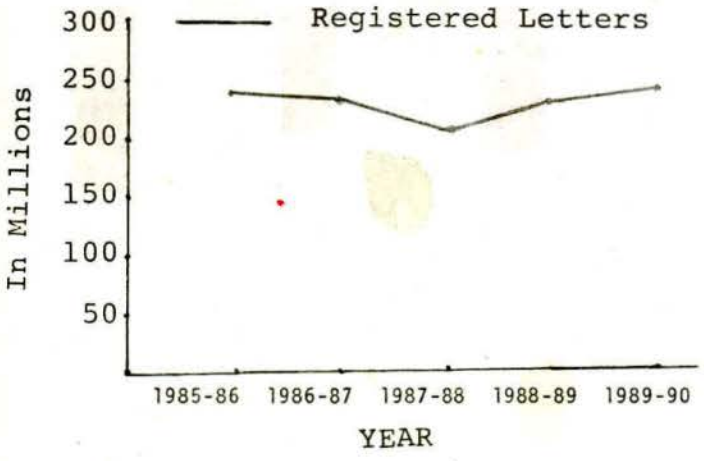
POSTAL TRAFFIC

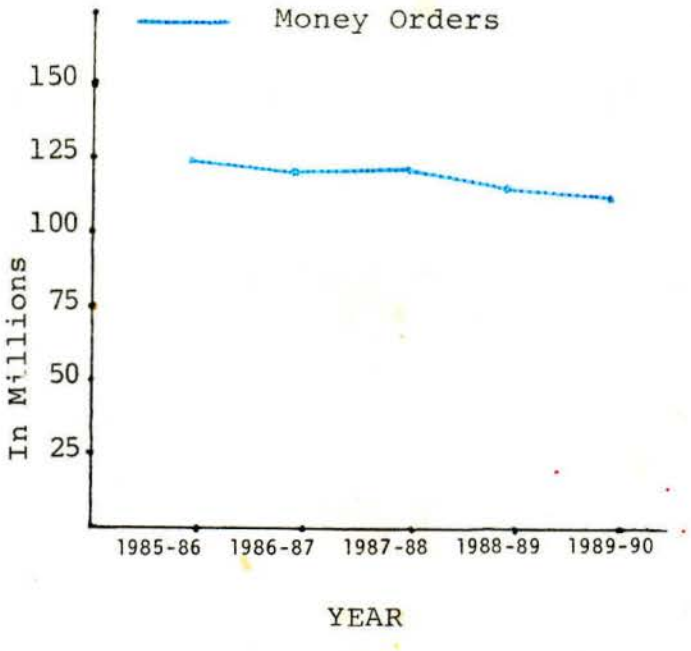


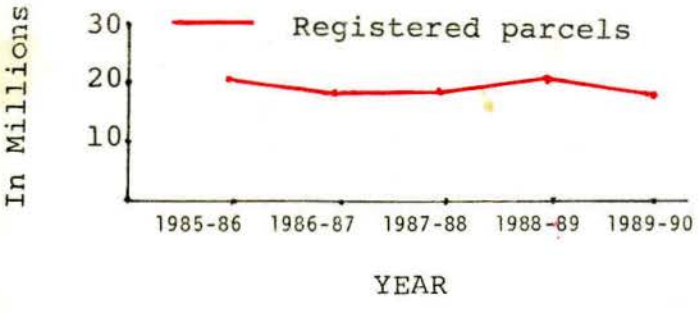












The deficit during 1989-90 was the highest in the past five years, rising from Rs.163 crores in 1985-86 to Rs.263 crores in 1989-90.

While the revenue receipts have gone up by 47.4 *per cent* during the five years, the revenue expenditure has gone up by 50.9 *per cent* during the same period.

For every one hundred paise realised towards providing the postal services the Department had spent 137 paise in 1989-90.

The deficit from year to year in the operation of postal services as brought out by the operating ratio in the above statement is attributable to increasing cost of operation of postal services and the pricing policy.

The actual revenue deficits during the last five years vis-a-vis those envisaged in the budget and the revised estimates are given below:

Year	Deficit			Percentage of variation to	
	Budget estimate (BE)	Revised estimate (RE)	Actual	(BE)	(RE)
		(Rs. in crores)			
1985-86	187	189	163	(-)12.8	(-)13.8
1986-87	224	335	216	(-) 3.6	(-)35.5
1987-88	133	346	191	(+)43.6	(-)44.8
1988-89	89	89	170	(+)91.0	(+)91.0
1989-90	190	188	263	(+)38.4	(+)39.9

The actual deficits having wide variation over the estimated projections reflect that the budgeting was not realistic.

1.3 Postal traffic

Traffic attracted by the Department in certain high value categories is on the decline over the last five years, as given below (information supplied by the Department):

(In millions)

Item	1985-86	1986-87	1987-88	1988-89	1989-90
Insured letters	7.01	6.75	6.44	5.81	5.88
Insured parcels	2.22	2.08	2.34	2.00	2.23
Value payable letters	7.98	5.46	6.82	5.44	5.48
Value payable parcels	2.27	2.17	2.05	1.74	1.93
Registered letters	238.92	236.42	206.86	230.93	244.69
Registered parcels	19.00	17.38	17.19	18.55	16.37
Money orders	123.80	120.50	120.70	113.00	110.90

The Ministry stated, in October 1990, that it was trying to attract more business by making its services more efficient and that the decline in traffic in money orders and insured letters could be due to development of banking facilities.

1.4 Pricing

According to the Expert Committee, the broad principles for pricing of individual postal services could be (i) political, (ii) commercial, and (iii) economic. The postal tariffs in India are an amalgam of all the three approaches. The data on cost and realisation from some postal services for the year 1987-88, as supplied by the Department, is reproduced below:

Service	Average cost in paise	Average revenue in paise	Difference in paise	Deficit (Rs.in crores)
Post cards	93.74	20.50	(-) 73.24	68.94
Registration	722.04	450.00	(-) 272.04	62.68
Letter cards	103.20	35.00	(-) 68.20	61.33
Money orders	953.02	641.26	(-) 311.76	37.60
Registered newspapers-single	128.18	20.72	(-) 107.46	22.34
Percels	1275.22	1004.90	(-) 270.32	15.68
Book pattern and packets	136.55	78.73	(-) 57.82	12.01
Indian postal orders	486.43	79.11	(-) 407.32	9.49
Printed books	172.75	78.92	(-) 93.83	6.78
Other packets	190.64	95.35	(-) 95.29	5.53
Registered newspapers-bulk	164.58	45.80	(-) 118.78	5.90

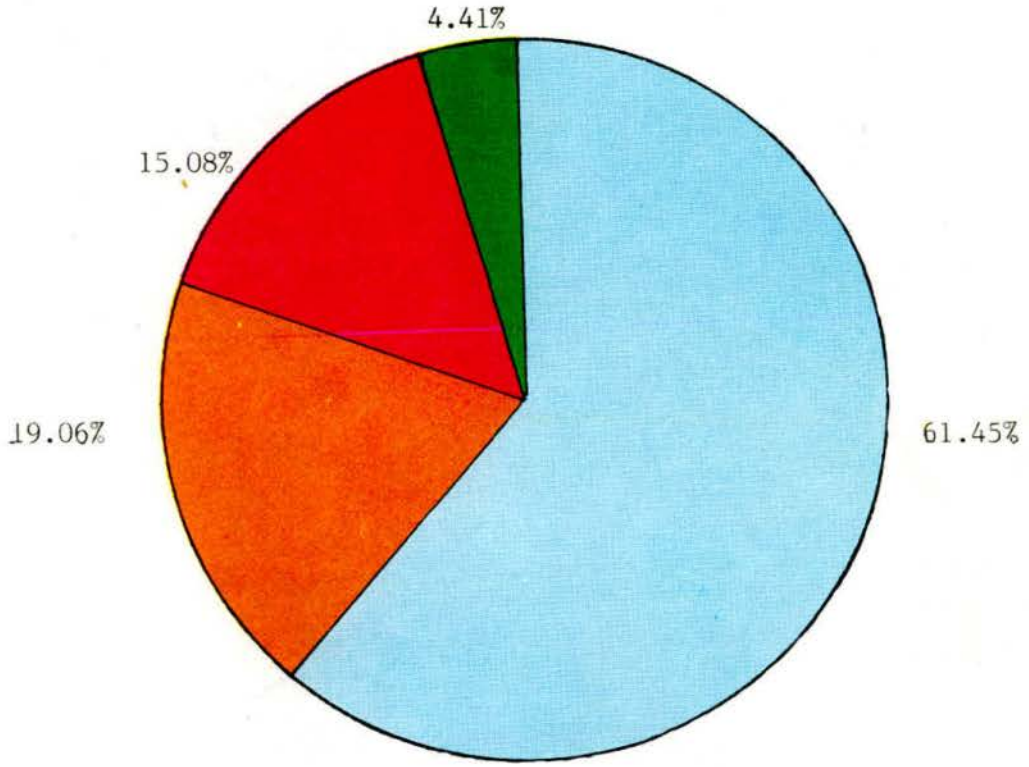
The Department is losing on all the services except letters which showed marginal gain of three paise per letter. Information for the years 1988-89 and 1989-90 was awaited from the Department.

The Expert Committee has recommended that in the short term (five years) the postal service should aim at balancing the expenditure, and in the long term (10 years) produce surplus to finance its own development. The Committee recommended that the above objectives could be fulfilled by revising/rationalising the rates charged for providing the service.

The Ministry stated, in January 1991, that the recommendations of the Expert Committee regarding short term

REVENUE REALISATION DURING 1989-90

DEPARTMENT OF POSTS



(Rs. in crores)

432		Sale of ordinary and service stamps
134		Postage realised in cash
106		Commission on account of Money Orders and Postal Orders
31		Other receipts
Total 703		

and long term objectives have been considered in detail by the Postal Services Board for suitable follow up action and the manner in which such action should be taken was under examination at higher levels.

1.5 Analysis of revenue receipts

Revenue realisation during the five years ending 1989-90 is given below:

(Rs.in crores)

Items	1985-86	1986-87	1987-88	1988-89	1989-90
Sale of ordinary and service stamps	292	329	381	415	432
Postage realised in cash	78	88	113	126	134
Commission on account of Money Order and Postal Orders	56	66	80	101	106
Net receipts from other Postal Administrations	6	19	11	27	30
Other receipts	45	56	58	73	1
Total	477	558	643	742	703

The revenue from the sale of ordinary and service stamps formed 56 to 61 *per cent* of the total revenue receipt in different years, followed by postage realised in cash constituting 16 to 19 *per cent*, and commission on account of money orders and postal orders from 12 to 15 *per cent*.

1.6 Growth of revenue expenditure

In the Long Term Fiscal Policy announced by the Government in December 1985, priority was assigned to reduction in the growth of non-plan expenditure. Its growth in this Department in the last five years was as under:

Year	Expenditure			Recoveries	Net revenue expenditure	Revenue deficit	Percentage of deficit to non-plan expenditure
	Plan	Non-plan	Total				
			(Rs. in crores)				
1985-86	2.14	726.05	728.19	87.80	640.39	163.55	23
1986-87	2.08	901.11	903.19	129.25	773.94	216.43	24
1987-88	2.28	1029.32	1031.60	197.75	833.85	190.87	19
1988-89	2.87	1087.86	1090.73	179.20	911.53	169.73	16
1989-90	3.32	1220.48	1223.80	258.22	965.58	262.99	22

The non-plan revenue expenditure formed nearly 99.7 *per cent* of the total revenue expenditure of the Department during 1985-90 and registered a rise of 68 *per cent* over the five years. Further, the deficit constituted 16 to 24 *per cent* of the non-plan revenue expenditure.

1.7 Capital expenditure

The following table indicates capital outlay of the Department according to major programmes financed from General Revenues:

Programmes	1985-1986		1986-1987		1987-1988		1988-1989		1989-1990	
	BE	Actuals	BE	Actuals	BE	Actuals	BE	Actuals	BE	Actuals
					(Rs. in crores)					
Gross Outlay on fixed assets										
Postal Network	19	14	20	14	22	19	18	22	18	23
Administrative Offices	3	2	5	4	3	3	6	3	5	3
Staff Quarters	6	16	7	10	8	7	5	8	5	5
Mechanisation and Modernisation	4	1	2	2	2	-	11	-	15	1
Railway Mail Service Vans	2	2	2	1	1	-	4	-	-	-
Training, etc.	1	1	1	1	1	1	-	1	2	1
Civil Engineering Stores Suspense	-	-	-	-	-	-	3	(-)4	3	1
Gross Total	35	36	37	32	37	30	47	30	48	34

Less Recoveries	3	3	4	4	4	4	5	5	5	5
Net Capital outlay on fixed assets financed from General Revenues	32	33	33	28	33	26	42	25	43	29

The funds allotted for various programmes during 1986-87 to 1989-90 were not utilised to the optimum. A major shortfall was under mechanisation and modernisation of postal services during 1988-89 (100 *per cent*) and 1989-90 (93 *per cent*). The Department did not appear to be serious enough to improve the efficiency through mechanisation/modernisation.

The Ministry stated, in January 1991, that every effort was being made to introduce mechanisation and modernisation consistent with labour intensive orientation, and that it has proceeded on an "appropriate technology" suited to its requirements.

The main reasons for shortfall in expenditure (both revenue and capital) are given in Chapter II of this report.

1.8 Plan performance

Against the Sixth Five Year Plan (1980-85) outlay of Rs.172 crores, provision of Rs.143.40 crores was made through the annual budgets while actual expenditure was Rs.149 crores. Activitywise break-up of the outlay for the Seventh Five Year Plan (1985-90), budget provision and actual expenditure were as under:

Particulars	Plan outlay	Budget provision	Actual expenditure
		(Rs. in crores)	
Expansion of postal network	10	12	4*
Mechanisation and Modernisation	39	34	4
Construction of post office buildings, staff quarters etc.	215	150	152
Training	15	9	5
Mail Motor service and speed post vehicles	11	7	6
Railway Mail Service	5	9	3
Total	295	221	174

* Includes Rs.2.21 crores on postal services in rural areas.

Against the Seventh Plan outlay of Rs. 295 crores, the funds provided amounted to Rs.221 crores. The short allotment was mainly on construction of staff quarters (Rs.65 crores) and training (Rs.6 crores). The Department utilised Rs.174 crores out of the budget provision of Rs.221 crores, i.e., 78,7 *per cent*. The major slippage was in respect of mechanisation and modernisation (Rs.30 crores) and expansion of postal network (Rs.8 crores).

The Department was, however, not able to achieve any of the physical targets envisaged in the Seventh Five Year Plan as per details given below:

	Particulars	Targets	Achievements	
(i)	Expansion of postal net work			
(a)	Opening of post offices	6000	3007	
(b)	Appointment of Extra Departmental Agents	1200	-	
(c)	Installation of letter boxes	5000 (raised to 25000)	9732	
(d)	Appointment of Plan Monitoring Inspectors	33	-	
(ii)	Mechanical Aids and Modernisation	292	258	
(iii)	Construction of			
(a)	Post office, Railway Mail service and other office buildings	1250	476	
(b)	Staff quarters	4000	2477	
(iv)	Mail Motor Vehicles	670	416	(except 1989-90)
(v)	Railway Mail Service Vans	32	7	

The Ministry stated, in January 1991, that the factors responsible for the shortfall in opening of post offices were (a) ban on creation of posts during 1985-86 and 1986-87, (b) partial relaxation of ban on opening of post offices in rural areas from 1987 onwards and (c) opening of post offices being dependent upon certain norms such as population, distance from the nearest post office and the minimum anticipated income.

The Ministry added that imposition of ban on purchase of vehicles in December 1985 and also non-supply of vehicles due to lock out in the factory of one supplier and discontinuation of production by another supplier were responsible for the shortfall in acquisition of mail motor vehicles.

The non-acquisition of Railway Mail Service vans as per the target was attributed

to more numbers from the existing vans being found servicable.

1.9 Manpower

The Department is a labour-intensive organisation, employing 5.85 lakh departmental and extra departmental employees whose pay and allowances including pensionery charges account for around 90 *per cent* of the Department's total working expenses. The entire revenue receipts of the Department are appropriated by the staff costs alone. As such the rest of the expenditure of the Department (ranging from 23 to 39 *per cent* of the revenue receipts during 1985-90) is subsidised by the Government from General Revenues.

Mention was made in paragraph 8 of the Report of the Comptroller and Auditor General of India for the year ended 31 March 1988 - No.14 of 1989, Union Government (Posts and Telecommunications), Human Resource Audit- Department of Posts that after 1919, only three major work measurement studies were carried out in the Department. The first was undertaken in 1929 (by Shri G.V.Bewoor), the next in 1951 (By Shri R.V. Marathe) and the third which related to a few operations in 1953 (by Shri Madan Kishore).

The Expert Committee on Excellence in Postal Services has observed "..... Inspite of the fact that the volume of traffic, procedures, technology and working conditions have changed since 1951, no systematic attempt has been made to revise these staffing norms or evolve productivity norms in a comprehensive manner. The Internal Work Study Unit which was set up in 1967 and the Efficiency Bureau, formed in 1968, have made fragmented and marginal studies to revise the existing norms. The revised norms evolved as a result of these work measurement studies could not be adopted for making adjustments in the existing staffing levels due to the resistence from employees unions." The Expert Committee recommended that ".... the Department (should) undertake without further delay a comprehensive review of the existing staffing norms and also evolve productivity norms after detailed work measurement studies in the context of changes in the volume of traffic, procedures, technology and working conditions and thereafter revise the manpower requirenment and staffing levels in its various formations."

In order to develop a reliable system for enumeration of traffic, Indian Statistical Institute(ISI), Calcutta had been requested by the Department in 1988 to tender its advice on the subject.

The Ministry stated, in January 1991, that the ISI's report was not yet ready.

1.10 Inter circle efficiency

On the request of the Department, the Indian Institute of Management, Ahmedabad prepared in October 1984 a comprehensive report for evolving a suitable Management Information System (MIS) for

the Department. But, according to the Expert Committee, no suitable MIS exists. Though a large number of returns, prescribed over decades, are obtained periodically from the field formations, the huge quantity of data collected remains, according to the Expert Committee, largely unprocessed and is not used either for strategic planning, or for operational and managerial control. The Department has still not prescribed any suitable MIS resulting in inability of the Department to assess the relative performance of various circles/ units.

The Ministry stated, in January 1991, that a Committee headed by Member (Finance) as Chairman has been constituted for the purpose of prescribing a suitable MIS for the Department. But evolution of a suitable MIS for the Department is dependent upon a reliable data base and that introduction of computers for that purpose has been decided upon.

1.11 Technology advancement

The Department was allotted Rs. 34 crores for mechanisation and modernisation during the Seventh Five Year Plan (1985-90), but it was able to utilise only Rs.4 crores.

Targets fixed and achievements made during the year 1989-90 are given below:

Unit	Targets		Achievements	
	Physical (No.)	Financial (Rs. in lakhs)	Physical (No.)	Financial (Rs. in lakhs)
Postal Life Insurance Computer in West Bengal Circle	1	4	-	-
High Speed Stamp Cancelling Machines	35	8	-	-
Stamp and Seals Factory	1	10	-	-
Integrated Mail Processing Project	1	1344	-	13
Research and Development	-	6	-	6
Regional Workshop	2	16	-	1
Auto purpose Counter Machine	25	10	5	1
In-house Computer	9	46	1	7
Digital Weighing Scales	50	6	50	8
		1450		36

While many of the newer organisations have responded to and accepted modern technology and methods of work, the postal service, which is the oldest departmental enter-

prise, has, according to the Expert Committee, continued without much change in its early work practices. The Expert Committee observed:

"The image projected by the postal service to the public at large is one of slow, manual work and untidy, ugly work places. The efforts of the postal services till now in mechanisation have been only marginal. For more than 30 years, the service has ritualised modernisation and mechanisation by introducing functional mechanical aids without any strategic goal. The Department has adopted mechanisation only to a limited extent."

The Ministry stated, in January 1991, that it has proceeded on an "appropriate technology" which suits its requirement, and some recommendations of the Expert Committee have been implemented while others are under examination. It added that every endeavour was being made to modernise the services in a phased manner and so far the following thrust areas have been identified for the purpose:

(i) Mail sorting mechanisation.

(ii) Post office counter mechanisation.

(iii) Computerisation of Savings bank, Postal Life Insurance operations, etc.

(iv) Management Information System.

CHAPTER- II
APPROPRIATION AUDIT AND CONTROL OVER EXPENDITURE

2. The summarised position of actual expenditure during 1989-90 against grants and appropriations relating to the Department of Posts is given below:

	Original grant/ appropri-ation *	Actual expen-diture	Saving
	(Rs. in crores)		
Revenue			
Voted	1228.78	1223.80	4.98
charged	0.02	--	0.02
Capital			
Voted	48.20	33.80	14.40
Total	1277.00	1257.60	19.40

* There was no supplementary grant/appropriation.

The broad results of Appro-priation Audit are as follows:

(i) The overall saving of Rs.19.40 crores during 1989-90 represented about 1.5 *per cent* of the total provision.

(ii) On 23rd March 1990 the Department surrendered a sum of Rs.52.25 crores as anticipated saving from the Revenue Section (Voted) of its grant. Nevertheless, the Department spent Rs.47.27 crores out or the surrendered funds on or before 31st March 1990. This indicates defective budgeting procedure and inadequate financial control.

(iii) The significant savings exceeding 10 *per cent* of the provision were under the following heads :

Revenue Section

Head of Account	Total grant	Actual expenditure	Saving	Percentage of saving
		(Rs. in crores)		
A-General Administration				
A.1-Direction and Administration	5.04	4.19	0.85	16.87
B- Operation				
B.1 Training	2.38	1.51	0.87	36.55
B.5- Mechanisation and Modernisation	0.46	0.18	0.28	60.87
D-Accounts and Audit				
D.1-Audit	2.20	1.90	0.30	13.64
E-Engineering				
E.2-Petty works	1.50	1.04	0.46	30.67
G-Pension				
G.2-Commuted value of pensions	23.00	17.16	5.84	25.39
G.4-Gratuities	20.00	17.25	2.75	13.75

Savings were attributed by the Department to:

(a) receipt of less claims for commutation of pensions and gratuities than anticipated;

(b) restriction imposed in August 1983 on creation/ filling up of posts and less expenditure as a measure of economy; and

(c) procurement of less number of certain items of mechanical devices than anticipated.

Capital Section

Head of Account	Total grant	Actual expenditure	Saving	Percentage of saving
	(Rs. in crores.)			
AA.1-Training	2.00	0.40	1.60	80.00
AA.3- Mechanisation and Modernisation of Postal Services	14.50	0.70	13.80	95.17
AA.4- Administrative Offices	5.50	2.77	2.73	49.63
AA.7- Civil Engineering Stores Suspense	3.00	0.85	2.15	71.67

Savings were attributed by the Department to :

(a) non-installation of integrated mail processing systems and other mechanical devices;

(b) slow progress in construction of buildings for training centres and administrative offices; and

(c) less payment against credit purchases and more issues to works than anticipated.

(iv) Persistent savings

Persistent savings exceeding 10 *per cent* of the provisions were noticed under the following heads of account:

Head of Account	Percentage savings		
Revenue	1987-88	1988-89	1989-90
B.Operation			
B.1-Training	24.55	27.67	36.55
Capital			
AA.3- Mechanisation and Modernisation of Postal Services	78.98	99.55	95.17

(v) Injudicious re-appropriations

The re-appropriation orders issued in the month of March 1990 for augumenting the funds under the following heads of account were found unnecessary as the actual expenditure did not come up even to the original provision.

Head of Account	Original grant	Re-appropriation	Actual expenditure
Revenue Section		(Rs in crores)	
E- Engineering			
E.1-Maintenance	15.86	0.35	15.19
E.2-Petty Works	1.50	0.30	1.04

The original grant amounting to Rs 19.34 crores under the head H.2 Stationery and Form Printing, Storage and Distribution was reduced to Rs.17.61 crores through re-appropriation. The actual expenditure, however, exceeded even the original grant by Rs.0.50 crore indicating re-appropriation to be injudicious.

CHAPTER III

REVIEW

3. Departmental Printing Press at Bhubaneshwar

3.1 Introduction

The Posts and Telegraphs Board approved, in May 1981, a proposal for setting up a departmental offset printing press at Bhubaneshwar with an annual printing capacity of 1800 tonnes (double shift). The project was sanctioned in March 1983 at an estimated cost of Rs.210 lakhs*. The printing of essential forms to meet, initially, the requirements of Orissa and two or three neighbouring Circles was scheduled to commence in May 1985. The press was commissioned in December 1986. The expenditure on the project booked upto March 1990 was Rs.269.97 lakhs*.

3.2 Scope of Audit

A review of establishment of the press and its working was conducted by Audit mainly between April 1989 and March 1990.

3.3 Organisational set up

The press, headed by a Manager, is under the control of the Chief Postmaster General (CPMG), Orissa Circle. The Manager is assisted by technical and administrative staff. Civil works were executed by the Civil Engineering Wing of the Department and were overseen by the Chief Engineer (Civil), East Zone, Calcutta till December 1988 and thereafter by the Chief Engineer (Civil), Postal, New Delhi.

3.4 Highlights

The review, brings out, inter- alia ,

-The Press was commissioned in December 1986 as against the stipulated date of May 1985. Structural shortcomings in the design of the press building were noticed during its construction. Time taken in providing the consequential and other structural details/ drawings and delay in supply of cement caused a delay of 15 months in the construction of the building. This also necessitated payment of Rs.7.33 lakhs to the contractor on account of escalation in cost of material and labour.

-During the three years ended March 1990, the actual production in two shifts was around one half of the envisaged production and the press could meet less than 60 per cent of the demand for forms received from the Orissa and two neighbouring Circles. During the same period, the four printing machines worked

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*** excluding cost of residential buildings.**

at only about two thirds of their capacity due to major electrical and mechanical breakdowns and defects in machines which were not repaired immediately due to non-availability of spare parts and shortage of machine assistants as suitable Scheduled Caste/ Scheduled Tribe candidates were not available for the posts lying vacant.

-A systematic study of the manpower requirement for the printing press was not made so far and norms indicating the quantum of output per workman hour had not been fixed.

-The Department did not get the guaranteed demand for electricity reduced in the light of consistently low consumption leading to infructuous expenditure.

-Cost control measures had not been introduced in the Press so far.

3.5 Building for the press

Sanction for construction of the press building (Rs.157.50 lakhs) and for electrical installation (Rs.23.24 lakhs) at an estimated cost of Rs.180.74 lakhs was accorded in August 1983. The building work was entrusted to a firm in July 1984 for Rs.135.47 lakhs for completion by August 1985. The work commenced in August 1984 but, in the course of construction, some cracks were noticed by the firm in the span beams and channel slab of the building after release of shuttering and this was brought to the notice of the Department in July 1985. The departmental engineers, therefore, decided in August 1985 to provide 12 additional columns to make the structure rigid and stable. The Department took over four months for providing the requisite structural details/drawings. Due to this delay as also the Department's failure to supply other drawings, cement,etc., in time,the work could be completed only in November 1986, till which date extension was given to the contractor. Additional expenditure of Rs.0.97 lakh was incurred on strengthening of structure by providing additional joints and columns,etc.

The Department stated, in December 1989, that due to massiveness of the structure, it was felt necessary to introduce few more columns from the technical point of view for structural safety of the building. But the fact remains that plans and estimates were required to be prepared taking into consideration massiveness of the structure to ensure structural safety.

The delay of about 13 months out of the total delay of 15 months in construction of the building was due to reasons largely attributable to the Department adopting an apparently deficient structural design and delays in supply of structural details, drawings and cement. The delay in completion of the building work has also necessitated payment of Rs.7.33 lakhs to the contractor as compensation

for escalation in cost of material and labour.

3.6 Performance of the press

3.6.1 Low production:- Against envisaged annual production of 1800 tonnes (double shift), actual production during the three years ended March 1990 was as follows:

	Envisaged production	Demand	Actual production	Percentage of demand met by the press
		(In tonnes)		
1987-88 (figures available for six months only)	900	Not available	384	-
1988-89	1800	1681	903	53.7
1989-90	1800	1600	932	58.3

The monthly production during the above period varied between 20 and 74 *per cent* of the envisaged 150 tonnes. The low production was attributed by the Department (December 1989) to defects in the machines, absenteeism, and shortage of paper and manpower. The Department added that being the first project of its kind undertaken by it, some shortfall could be expected due to lack of experience. This is not tenable since even after the initial production, performance has not improved to any major extent.

The printing press could not meet the demand of the Orissa Circle and the neighbouring Circles fully. Thus, despite sizeable financial investment, the objective for which the departmental press was installed had only been partly achieved.

3.6.2 Under-utilisation of machines:

Four printing machines were procured at a cost of Rs.56.90 lakhs and were installed by December 1986. The Department did not prescribe any standard for effective working of these machines. In the Government of India Presses, for similar machines, the net working hours of a machine during a particular year were arrived at after making an allowance of fixed percentage on the machine hours available in that year to provide for loss of working due to factors like make ready operation, tests and personal needs of the operatives, absenteeism, and weekly and daily cleanings. Applying similar allowances, the performance of the four machines (double shift) during 1987-88 to 1989-90 was as under:

Printing machine at the Departmental Printing Press, Bhubaneshwar

	Total machine hours available	Idle hours for admissible reasons	Net machine hours available	Actual hours of operation	Shortfall (in hours)	Percentage of shortfall to net machine hours available
1987-88 (figures available for eight months only)	10,778	2,336	8,442	5,655	2,787	33
1988-89	16,302	4,005	12,297	8,491	3,806	31
1989-90	16,186	4,859	11,327	8,405	2,922	26

In March 1990, the Manager of the press attributed the shortfall to major electrical and mechanical breakdowns, defects in the machines which could not be repaired immediately due to non-availability of spare parts with the manufacturing firm and shortage of machine assistants as suitable Scheduled Caste/ Scheduled Tribe candidates were not available for the posts lying vacant.

3.6.3 Manpower utilisation:- The printing press had not made any systematic study of the manpower requirement so far; norms indicating the quantum of output per workman hour had not been fixed (April 1990). As a result, there was no mechanism available to gauge the efficiency of manpower deployed. The comparative position of the activity of the press during the three years ended March 1990 was as under:

	1987-88	1988-89	1989-90
Men in position	196	195	202
No.of copies of forms printed (in lakhs)	378.42*	1412.33	945.57
No. of copies of forms printed per employee per month (in lakh)	0.32	0.60	0.39

* for six months only

In the absence of work standards, reasonableness or otherwise of productivity per employee could not be judged.

The staff strength, cadrewise, was reviewed by the Manager of the press at the suggestion of the CPMG in July 1989 and on the basis of the work load of the press, it was felt that there was not sufficient work for some sections of the preprinting staff. Even

though abolition of one post each of Junior Artist, Assistant Artist, Retoucher, Reader and Copy-holder was suggested to the CPMG in August 1989, decision thereon was awaited (January 1991).

The press had not evolved a system to maintain arrival and departure time for its employees. The press followed the token system which did not have adequate arrangement to record and watch the actual arrival and departure time of the workers. The booked time was also not being reconciled with the actual time spent on each job, in order to find out the idle time of the workers and its impact on job costing. The Department stated, in December 1989, that action was being taken for supplying time clock.

3.7 Payment of electricity charges

An agreement was executed with the Orissa State Electricity Board in November 1986 for the supply of a contracted demand of 220 KVA (200 KW) for a period of five years and the supply was effected from January 1987. As per the agreement, the press was to pay the monthly electricity charges at prescribed tariff subject to the minimum charges calculated on a demand of 80 *per cent* of the contracted demand. But the maximum consumption of electricity during any month from January 1987 to February 1990 varied between 38 KVA and 72 KVA only. During January 1987 to March 1990, Rs.7.35 lakhs were paid to the Electricity Board as minimum electricity charges computed on the guaranteed demand of 176 KVA. The demand could have been reduced at least by 50 *per cent* from January 1987, but this was not done. The Department stated in December 1989 that the matter has been taken up with the Superintending Engineer (Electrical), New Delhi. on whose technical advice, the connection was obtained. The contracted demand of 220 KVA has not so far been revised (October 1990).

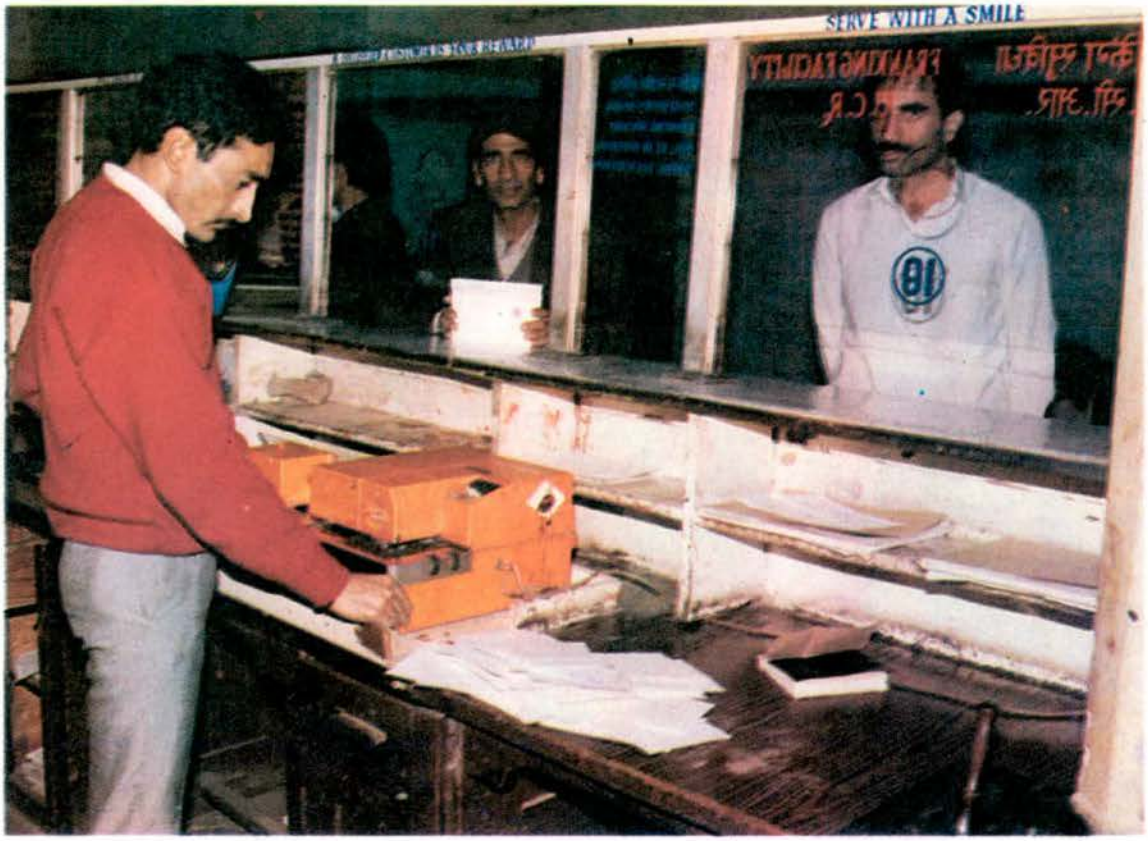
3.8 Unused paper

Between August 1986 and March 1987, the press received 43.6 tonnes of 275 GSM paper costing Rs.3.88 lakhs against indents placed by the Postmaster General in February 1985. This paper was to be used for making file covers. The paper was lying unutilised for the last three years as no job requiring use of this paper was received. Action to divert the paper was yet to be taken (October 1990).

3.9 Cost control measures

The press does not have a system of computing actual cost of printing of forms. Proforma accounts were not being prepared to find out the working results of the press at the end of each year. The accounting procedure of the press as approved by the Directorate in March 1986 provides, inter alia, that before an order for printing is taken up, an estimate be prepared and a job cost sheet maintained for each job. This was not yet started (February 1991).

These observations were referred to the Ministry in October 1990; reply has not been received (February 1991).



High speed franking machine at a Post Office in New Delhi

CHAPTER IV

OTHER CASES

4. Utilisation of imported franking machines

In October 1985, the Department of Posts had imported 10 high speed franking machines from a Swiss firm. These were installed in important post offices in Bombay, Calcutta, Delhi, Madras and Bangalore. Their performance was stated by the Directorate to be quite satisfactory.

In the wake of the Department's decision (July 1985) to abolish the prepaid system of posting letters in bulk, demand for stamps was anticipated to be heavy in post offices in the vicinity of bulk mailers in big cities. With a view to avoiding resultant inconvenience to bulk mailers, the Department imported 50 more machines from the same firm in September 1987 taking into account the satisfactory performance of the earlier ten machines, and the likely saving in cost of printing, handling and storage of stamps and labour. The total cost of these 60 franking machines was Rs.20.40 lakhs. They were distributed to 50 post offices in 15 postal circles throughout the country.

During 1988-89, the number of articles/letters actually franked by 54 (of the 60) machines, for which information was available, was mostly below the target of franking 10000 articles per machine per day. In fact, the machine was capable of franking 56000 articles in a working day of seven hours. The average number franked by the machines was only 2480 articles per machine per day, the highest being 6692 in Delhi Circle and lowest-14 articles at Jaipur. During 1989-90, the average number franked improved from 2480 to 5381 per machine per day. Even then, this was much below the target fixed and the machine capacity. The highest-14402 articles was in Uttar Pradesh Circle while the lowest-31 articles was at Jaipur. One machine allocated to the Guwahati Post Office was not installed since its receipt in September 1987 for want of space in the post office building.

Thus, the machines imported at considerable cost were being under-utilised.

In a communication to all Heads of Circles in March 1990, the Ministry had pointed out that the selection of post offices for installation of the machines was perhaps not proper as its utilisation had improved by shifting one machine to another post office. It was suggested that a suitable campaign be launched to create greater awareness among the bulk mailers about existence of the facility. Action taken and results therefrom were not known.

The matter was referred to the Ministry in July 1990;

reply has not been received (February 1991).

5. Fraudulent payment of higher rent for office accommodation

To meet the additional requirement of accommodation for three offices, the Postmaster General, Maharashtra Circle, Bombay executed in April 1984 three separate lease deeds for hiring three floors of a private building at Kalyan. The lease period was five years effective from 1st February 1984, as detailed below:

	Name of office	Carpet area* in Sq.ft.	Total rent inclusive of all taxes per month Rs.	Average rent per Sq.ft. of carpet area * Rs.
First floor	Sorting office	3714.22	21000 (19400 till 20th April 1984)	5.65
Second Floor	Delivery office	3372.91	20400 (18860 till 20th April 1984)	6.05
Third Floor	Sub-record office	3788.87	18600 (17240 till 20th April 1984)	4.91
		10876.00	60000	

**Not specified in the lease deeds, rent being payable floorwise.*

During audit of the office of the Postmaster General, Bombay in January-February 1986, the following points came to notice:

(i) The Department did not invite competitive offers, though required as per its regulations. Instead, it acted on an offer received from a private party in August 1983 for hiring 4200 sq.ft. of built up area on each of the floors of the above four storeyed building under construction.

(ii) The Fair Rent Committee (FRC) which considered in September 1983 the above offer of monthly rent of Rs. 3.00 per sq.ft. of the built up area excluding all taxes did not agree to it and instead recommended a monthly rent of Rs.3.00

per sq.ft. of carpet area inclusive of all taxes, subject to verification of carpet area by joint measure-ment after completion of the construction. The landlord did not accept this and proposed in November 1983 a monthly rent of Rs.4.25 per sq.ft. of carpet area inclusive of all taxes. Instead of referring the case back to FRC for reviewing its earlier recommendation, the Department executed the lease deeds at a rent which worked out to Rs.5.65 per sq.ft. for the first and Rs.6.05 per sq.ft. for the second floor, which rates were much higher than even the rate of Rs.4.25 offered by the landlord. Extra expenditure due to payment of rent higher than what had been demanded by the landlord for these two floors worked out to Rs.6.72 lakhs (upto June 1990). Computed with reference to the rate recommended by the FRC, the extra expenditure would be Rs.11.81 lakhs. The Chief Postmaster General, Maharashtra Circle, stated, in March 1990, that the reasons for executing lease deeds at a higher rate of rent for three floors were not available in the records.

(iii) The hiring of accommodation on the third floor was considered by the Chief Postmaster General as not needed at all and was vacated in January 1986 after paying unnecessarily rent of Rs. 4.43 lakhs from February 1984.

(iv) The first floor accommo-dation was vacated in June 1987 as not then needed. The second floor accommodation continued to remain occupied even after the expiry of the lease period in January 1989, but the lease had not been renewed so far (May 1990).

Admitting the irregularities pointed out by Audit, the Ministry stated, in January 1991, that dis-ciplinary action against the then Postmaster General, Maharastra Circle, Bombay, who has since retired, has already been launched and legal action was also being taken against him.

6. Hiring of an accommodation at Bombay

Hiring of accommodation at a rate much higher than that recommended by the Fair Rent Committee had led to avoidable expenditure of Rs.5.06 lakhs.

To meet the urgent requirement of accommodation of a delivery post office, the Post Master General (PMG), Maharashtra Circle, Bombay, without calling for tenders, approached the owner of a building at Vile Parle, in October 1982, who offered the ground floor of premises measuring 2500 sq.ft. (carpet area 1386 sq.ft.) at a net monthly rent of Rs. 15 per sq.ft. of built up area. The Fair Rent Committee (FRC), which met in November 1982, recommended a rent of Rs.10.78

per sq.ft. of built up area or Rs. 13.45 per sq.ft.of carpet area. As the Senior Administrative Officer of the Department intimated the FRC that premises were urgently required and considered very suitable to solve the problems of the delivery post office, the justified area for which was 3385 sq.ft, the FRC recommended a weightage of about 10 to 20 *per cent* over and above the recommended rates considering its nearness to railway station, urgency for the accommodation, and non-availability of any other accommodation at ground floor in that area.

The acceptance of the offer for the premises at a gross rent of Rs.16 per sq.ft. of carpet area (inclusive of all Government and Municipal taxes) which worked out to 19 *per cent* above the recommended rate of Rs.13.45 per sq.ft. for a lease period of 10 years from the date of occupation was communicated to the party in January 1983. However, as per the lease agreement effective from 27th January 1983 executed in the same month, the monthly rent payable was Rs.23920 at Rs. 17.25 per sq.ft. of carpet area against the agreed rate of Rs.16 per sq.ft. of carpet area. This worked out to 28 *per cent* over and above the recommended rates by the FRC as against the weightage of 10 to 20 *per cent* allowed by the FRC. The reasons for increase in weightage over and above the weightage recommended by the FRC were not known.

While the justified accommodation for the delivery post office was stated to be 3385 sq.ft. only area of 1386 sq.ft. was taken at a much higher rent to accommodate part of the divisional office. The accommodation 'considered very suitable' and urgently required for solving the problems of delivery post office on account of which weightage in rent over and above the recommended rent was allowed, was in fact not really utilised for that office.

Thus, due to acceptance of rental with higher than the recommended weightage, the Department had incurred extra expenditure of Rs.5.06 lakhs during the last eight years (upto January 1991) and would incur an additional extra expenditure of Rs.1.26 lakhs till the termination of the lease period in January 1993.

The matter was referred to the Ministry in July 1990; reply has not been received (February 1991).

7. Avoidable expenditure on construction of a post office building

According to the departmental rules and supplementary instructions issued in November 1981 by the Directorate,buildings should be constructed to cater to, in the first instance, the current requirement and only a reasonable amount of addition to it, but their specifications and designs should be such as would allow future expansion/extension up to 50 *per cent* of the current requirement.

The Postmaster General (PMG), Kerala Circle sanctioned, in October 1983,

construction of a building for Punaloor Head Post Office at an estimated cost of Rs.21.71 lakhs. The building, to be constructed in four storeys, was to have a floor area of 8900 sq.ft. against 5239 sq.ft. current requirement inclusive of 10 *per cent* expansion. The construction of the building commenced in November 1985. In October 1986, when the construction had reached the roof level of the second floor and a few pillars for the third floor were cast, the Superintendent of Post Offices suggested to the PMG to suspend further work since the area would be far in excess of the need. By the time PMG decided, in December 1986, to stop further work, the roof of the four storeyed structure had already been cast. The building with a floor area of 8250 sq.ft. costing Rs.24.17 lakhs was ready in October 1987 and after obtaining water and electricity connections, the Head Post Office was shifted to the new building in April 1988. Only 5775 sq.ft. space was, however, actually being used, and one complete floor (2475 sq.ft.) was lying vacant (August 1990) being surplus to the requirement. The prospects of its utilisation were also remote as, according to the PMG, the office was not likely to grow appreciably. Efforts were, therefore, stated to be on to let the vacant floor to Government Offices. Proportionate cost of construction of the vacant space worked out to Rs.7.25 lakhs which could have been avoided.

The Ministry's contention (August 1990) that the construction for a little over 50 *per cent* of the present requirement in this case was as per the general instruction quoted above is not acceptable, since the instruction provides for immediate construction to cover current need and reasonable expansion, while only structural designs and plans are to be such as would facilitate expansion by 50 *per cent* of the current requirement.

The Ministry, however, added that instructions were proposed to be issued to Heads of Circles to ensure that for departmental buildings proposed to be put up in small towns and villages having very limited scope for increase in postal traffic, construction requirement should be suitably worked out.

8. Procurement of electronic inverters

Postmaster General, Madhya Pradesh Circle, Bhopal purchased 17 electronic inverters of 1 KVA costing Rs.1.74 lakhs in 1982 for lighting purposes in the event of power failure in the Post and Railway Mail Service Offices as petromax lanterns were not considered adequate. Equal number of battery sets valuing about Rs.0.76 lakh were also procured to operate the inverters. All the inverters were reported to be out of order on installation or thereafter as the equipment had developed certain defects. The defects developed in the system were stated by the supplier to be due to its mishandling by the departmental staff who were not technically conversant. The entire

expenditure of Rs.2.50 lakhs, thus, remained unfruitful.

The Department admitted, in October 1989, that all the inverters supplied in the Circle were lying out of order. It further admitted that it was perhaps a bonafide mistake to go in for so many numbers at a time instead of first experimenting with one or two numbers to judge their suitability and performance.

The Ministry added, in November 1990, that instructions were being issued to all Heads of Circles that whenever any new equipment is purchased, all possible arrangements should be made for its proper maintenance and careful handling, including training adequate number of staff for the purpose.

9. Postal services in rural areas

9.1 Nearly 75 *per cent* of the funds available during the Seventh Five Year Plan for expansion of postal services in the rural areas had not been utilised, resulting in non-achievement of the physical targets fixed for the purpose.

9.2 While formulating proposals for the Seventh Five Year Plan (1985-90), the Department had estimated that 12000 post offices would be needed to be opened in the rural areas. Keeping in view the past experience and resources (Rs.10.10 crores) available for the purpose during the plan period, post offices and other supportive aids proposed to be added/provided and actually provided during Seventh Plan were as under:

	Item	Seventh Plan Target	Achievement	Percentage of achievement
(i)	Opening of post offices	6000	3007	50.12
(ii)	Appointment of additional extra-departmental delivery agents	1200	-	zero
(iii)	Installation of letter boxes	25000	9732	38.93
(iv)	Provision of counter facilities at village post offices(dispensed with from February 1987)	4000	-	zero
(v)	Appointment of plan monitoring inspectors	33	-	zero

9.3 Against the Seventh Plan outlay of Rs 10.10 crores, the budget allotment during the five years was Rs.8.25 crores and the actual expenditure amounted to only Rs.2.21 crores, a shortfall of 73 *per cent* over the budget and 78

per cent over the plan outlay. This resulted in consequential shortfall, as indicated above, in physical achievement of targets.

The Ministry stated, in January 1991, that the shortfall in the provision of funds over the outlay for the Seventh Plan was due to the proposals for respective years being scaled down by the Planning Commission on the basis of availability of funds and priorities. The Ministry added that the shortfall in financial and physical achievement was a result of the following factors.

(i) ban on creation of posts (relaxed from August 1986);

(ii) time consuming and cumbersome procedure of referring every case of opening of post office to the Ministry of Finance for their concurrence;

(iii) late receipt of concurrence from that Ministry which, while giving concurrence in 1988-89, had desired that the norms being followed for opening of post offices in rural areas, being quite liberal, should be revised in consultation with some independent autonomous expert agency. (Consequently, the task was assigned to the National Institute of Rural Development, Hyderabad, whose report was awaited - December 1990);

(iv) withdrawal of powers for creation of posts from the Director General, Department of Posts.

9.4 It was also mentioned that a less costly system of postal service through the Panchayat Dak Sewaks was introduced in 1988 and 3035 such Sewaks were provided during the Seventh Plan.

But such Sewaks were to be only supplementary, and not altertnative, to the rural post offices. Moreover, the targets for even 1987-88 to 1989-90, i.e., for the years following the relaxation of the ban on creation of posts, and the introduction of the system of Panchayat Dak Sewaks, were only partly achieved, as indicated below:

Year	Opening of Post offices		
	Target	Achievement	Shortfall
1987-88	880	849	31
1988-89	3000	216	2784
1989-90	2120	1942	178

9.5 As for non-appointment of any additional extra-departmental delivery agent (EDDA), the Ministry replied, in January 1991, that the posts were not sanctioned separately

because they formed part of establishment of branch post office and added that since during the entire Plan period, 4371 post offices were sanctioned (only 3007 were actually established) and assuming that each such post office had at least one EDDA, the number of EDDAs thus appointed far exceeds the targeted number.

The Plan provision was for "additional" EDDAs for strengthening of the rural delivery system and mail conveyance and they were to be over and above the normal EDDAs sanctioned for rural post offices. The Ministry's reply did not indicate how far these functions were actually discharged by the normal EDDAs at the above post offices. Further, according to the Annual Plans and the Performance Budgets for the years 1986-87 onwards, a separate target was fixed for this purpose every year.

9.6 As for non-appoinment of any Plan Monitoring Inspector, the Ministry stated that the reason was the ban on creation of posts. But the ban was relaxed from August 1986, whereafter also no progress in this respect was made, though the scheme of such inspectors was introduced from the Seventh Plan, not being therein in the Sixth Plan.

9.7 Even in comparison to the Sixth Five Year Plan (1980-85) achievements, those during the Seventh Five Year Plan were far lower both in absolute terms and as a percentage, despite availability of funds. The details are given below:

Items	Sixth Five Year Plan (Outlay Rs.13.47 crores Budget Rs.15.03 crores Expenditure Rs.17.51 crores)			Seventh Five Year Plan (Outlay Rs.10.10 crores Budget Rs.8.25 crores Expenditure Rs.2.21 crores)		
	target	achievement	percentage of achievement	target	achievement	percentage of achievement
(i) Opening of post offices	8000	6820	85.25	6000	3007	50.12
(ii) Appointment of additional extra departmental delivery agents	10000	8040	80.40	1200	-	zero
(iii) Installation of letter boxes	10000	12832	128.32	25000	9732	38.93
(iv) Provision of counter facilities at village post offices	10000	9625	96.25	4000	-	zero
(v) Appointment of plan monitoring inspectors	-	-	-	33	-	zero

9.8 According to the departmental norms, every village with a population of 500 and above should be provided with a letter box facility and in villages with a population of less than 500, the facility should be provided on the basis of need and subject to the criteria that the nearest letter box is not nearer than one kilometre, and there is expectation of posting at least one letter per day.

9.9 The Estimates Committee (Eighth Lok Sabha) in its fifty eighth report presented to Parliament in April 1988 had also recommended that the Department should initiate action on priority basis and install letter boxes to cover all the villages with a population of 500 and above within the Seventh Plan.

It was, however, observed in Audit that at the end of March 1989, there were 74,275 villages with a population of 500 and above which were yet to be provided with a letter box. Of these, more than 75 *per cent* villages were in five circles alone, viz., Andhra Pradesh, Bihar, Madhya Pradesh, Orissa and Uttar Pradesh.

9.10 While fixing the circle-wise targets for providing letter boxes, even such basic factors like number of

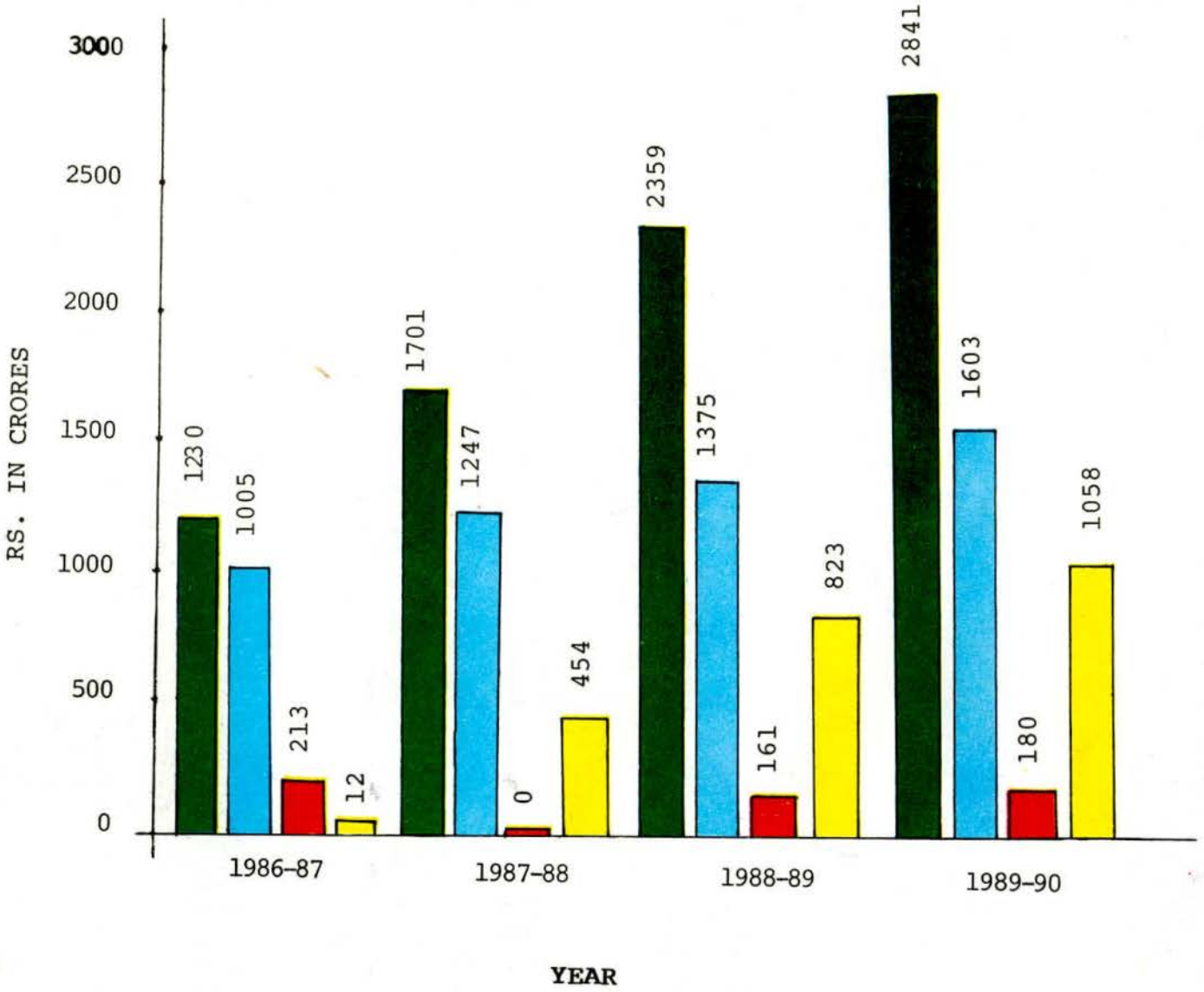
eligible villages remaining to be provided with letter boxes was not taken into account. In Goa, Himachal Pradesh and Punjab Circles, targets fixed for providing letter boxes were in excess of the number of villages remaining to be provided with letter boxes. In Bihar, Orissa and Uttar Pradesh, targets fixed did not have corelation with the number of villages to be provided with the facility.

During 1988-89 and 1989-90 the boxes actually installed were only 3594 and 6138 against the target of 5000 and 20000 for the respective years. The Ministry stated, in January 1991, that the shortfall was a result of their non-availability, in adequate quantity, in Postal Store Depots due to non-receipt of supply through the Director General of Supplies and Disposals.

It was observed in Audit that indents for procurement and supply of letter boxes for the years 1988-89 and 1989-90 were placed by the Directorate on the Director General, Supplies and Disposals only during June 1988 and November 1989 while purchase orders were placed on private firms by the latter only between May 1989 and August 1990, i.e., nearly 10 months later. Thus, the Department had not taken advance action to ensure timely availability of the letter boxes.

DEPARTMENT OF TELECOMMUNICATIONS

FINANCIAL RESULTS
DEPARTMENT OF TELECOMMUNICATIONS



CHAPTER V

ACCOUNTS OF THE DEPARTMENT OF TELECOMMUNICATIONS

10.1 Organisational set up

The main functions of the Department of Telecommunications include planning, engineering, installation, maintenance, management and operation of voice and non-voice telecommunication services all over the country as well as with the neighbouring countries. The Department is also responsible for frequency management in the field of radio communications in close co-ordination with the international bodies. It also enforces wireless regulatory measures by monitoring wireless transmission of all users in the country.

The Department functions through a Telecommunication Commission which is responsible for formulating the policy of the Department in all matters concerning telecommunications, obtaining approval of Government, and its implementation.

The Commission is headed by a Chairman assisted by four full time and four part time members. The Commission has also four advisors.

10.2 Operating ratio

Operating ratio, i.e., proportion of working expenses to the revenue earned during the last four years improved from 82.8 *per cent* in 1986-87 to 53.3 *per cent* in 1989-90 on accrual basis.

10.3 Financial results

Working results of the Department for the last four years are given below:

	1986-87	1987-88	1988-89	1989-90		
				Budget Estimates (BE)	Revised Estimates (RE)	Actuals
				(Rs. in crores)		
Revenue Receipts	1230	1701	2359	2980	2925	2841
Net working expenses	1005	1247	1375	1804	1654	1603
Dividend to General Revenues	213	-	161	198	178	180
Total Expenditure	1218	1247	1536	2002	1832	1783
Surplus	12	454	823	978	1093	1058

Against a surplus of Rs.823 crores in 1988-89, the working result for 1989-90 showed a surplus of Rs.1058 crores, an increase of 29 *per cent* over the previous year. The surplus, however, fell short of the Revised Estimate by Rs. 35 crores.

In terms of the convention governing the financial relationship between the Department and General Revenues, dividend at the rates prescribed by the Government from time to time is payable annually to the General Revenues on the net progressive capital outlay of telecommunications services financed from General Revenues. A sum of Rs.180.37 crores was paid to General Revenues during 1989-90 as compared to Rs.160.66 crores during 1988-89.

The surplus after payment of dividend to General Revenues is appropriated to the Revenue Reserve Fund and the Capital Reserve Fund. During 1989-90, an amount of Rs.1058.03 crores was appropriated to the Revenue Reserve Fund (Rs.0.10 crore) and the Capital Reserve Fund (Rs.1057.93 crores).

10.4 Revenue Reserve Fund

This fund was set up in 1960-61 and is drawn upon if there is a deficit in the working of the Department, or if the surplus in its working is not adequate enough to cover the dividend payable to General Revenues. Balance in the fund earns interest at the average borrowing rate of Government, applicable for the year, which again is the rate at which dividend is payable by the Department on the capital provided by General Revenues. The interest so earned is credited to the fund.

The balance in the fund on 31st March 1990 was Rs.37.51 crores. Interest amounting to Rs.3.28 crores was earned during the year.

10.5 Capital Reserve Fund

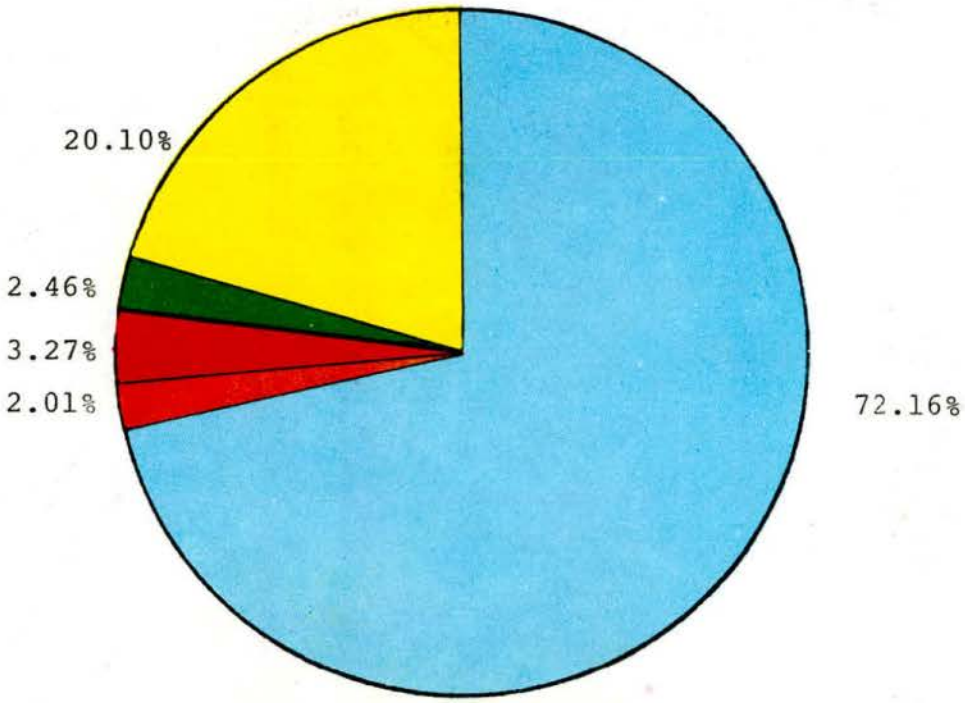
This fund was constituted in April 1968 with a view to facilitating utilisation of the amount for financing part of the Department's capital expenditure.

The fund is fed by transfer of such part of the surplus in the working of the Department as may be decided upon from time to time. The balance in the fund earns interest at the average rate applicable for the year, which again is the rate at which dividend is payable by the Department to General Revenues. The interest so earned is credited to the fund.

During 1989-90, an amount of Rs.1057.93 crores was appropriated to this fund and an equal sum withdrawn to finance the capital expenditure.

The closing balance of the fund, as on 31st March 1990, was Rs.371.5 crores. The fund earned interest of

REVENUE REALISATION DURING 1989-90
DEPARTMENT OF TELECOMMUNICATIONS



Rs. in crores

2050	Telephone rentals, local and trunk call charges
57	Telex rental and call charges
93	Telegram charges
70	Rent of wires and instruments leased to Railways, Canals, other net receipts etc.
571	Receipts from MTNL
2841	

Rs.32.5 crores during the year 1989-90.

10.6 Revenue receipts

Receipts of the Department comprise (i) earnings from its network, such as telephone rentals and call charges, public call offices receipts, telegraph receipts, telex rentals and call charges, and rentals of leased telegraph/telephone circuits, and (ii) receipts from the Mahanagar Telephone Nigam Limited (MTNL) on account of utilisation of Department's network and dividend/interest on equity/loan component of the value of assets transferred to MTNL.

The breakup of the revenue receipts during the last four years ending 1989-90 is given below:

	1986-87	1987-88	1988-89	1989-90		
				BE	RE	Actual
		(Rs. in crores)				
1. Telephone rentals, local and trunk call charges	921	1282	1726	2102	2120	2050
2. Telex rental and call charges	60	67	60	82	83	57
3. Telegram charges	93	86	101	86	115	93
4. Rent of wires and Instruments leased to Railways, Canals, etc.	48	48	61	51	71	82
5. Receipts from other telephone/telegraph administrations	93	61	64	50	38	307
6. Receipts from MTNL	162	287	415	580	550	571
7. Other receipts	23	32	14	29	51	41
8. *Less* Payments to other telegraph/telephone adminins-trations	(-) 170	(-) 162	(-) 83	-	(-)103	(-)360
Total	1230	1701	2358	2980	2925	2841

The revenue receipts of Rs.2841 crores during 1989-90 fell short of the budget estimates and the revised estimates by Rs. 139 crores and Rs.84 crores respectively. The shortfall was mainly under (i) telephone rental, local and trunk call charges (Rs.70 crores), (ii) telex rental and call charges (Rs.26 crores), and (iii) telegram charges (Rs.22 crores).

10.7 Borrowings

In order to carry out its expansion programmes, the

Department obtained Rs.1550 crores during 1986-90 through bonds floated by MTNL and loans advanced by the Unit Trust of India.

In addition, an agreement for a loan of US $345 million was also signed between the World Bank and the Government of India in July 1987. Of this sum, $247 million (Rs.321 crores) were earmarked for the Department and the remaining for MTNL. The loan was meant to finance cable pulse code modulation system, 12GHz digital microwave system, etc. Till March 1990, only $164 million (Rs.213 crores) out of the credit offered were availed of. Of the balance, loan of $152 million has since been cancelled, leaving $29 million for being availed of.

10.8 Capacity utilisation

Major activity of the Department is to provide telecommunication facilities. Data relating to the availability of number of telephones in the country at the end of last four years is given below:

Year	Equipped capacity	Working connections	Percentage utilisation of equipped capacity
	(in lakh direct exchange lines)		
1986-87	39.89	34.88	87.4
1987-88	43.29	38.01	87.8
1988-89	47.97	41.74	87.0
1989-90	52.64	45.89	87.2

Capacity utilisation during these four years was stagnant, around 87 *per cent*, as against 92 *per cent*, expected, generally, in the context of conditions in India.

10.9 Demand satisfaction

Over the four years, the number of persons on the waiting list had increased, from 11.25 lakhs in March 1987 to 17.17 lakhs in March 1990. Provision of facilities in this revenue earning activity has, thus, not kept pace with the demand. The details of numbers on the waiting list are given below:

	Bombay	Calcutta	Delhi	Madras	Other stations	Total
			(in lakhs)			
31st March 1987	2.02	0.33	1.71	0.40	6.79	11.25
31st March 1988	2.10	0.40	1.88	0.45	8.17	13.00
31st March 1989	1.92	0.32	2.32	0.51	9.13	14.20
31st March 1990	2.24	0.35	2.65	0.63	11.30	17.17

10.10 Plan performance

Having regard to the overall resources and competing demands of other sectors of economy, the National Development Council approved for telecommunication services an outlay of Rs.4010 crores for the Seventh Five Year Plan (1985-90) at 1983-84 prices. This outlay had a rider to the effect that the additional resource mobilisation and domestic borrowings would be an additionality. The outlay of Rs.4010 crores was considered inadequate not only for containing waiting period for providing new connections, but also for meeting the commitment already made by the Department. The plan outlay was, therefore, raised to Rs.6000 crores at 1983-84 prices which provided for, *inter alia*, fixing of 16 lakh (net) new connections. Position about release of funds and the expenditure during the Seventh Five Year Plan was as under :

Revised estimates (RE) and actual plan outlay for the Seventh Five Year Plan

Year	Department of Telecom		Mahanagar Telephone Nigam Limited	
	RE	Actuals	RE	Actuals
	(Rs. in crores)			
1985-86	855	892	(MTNL formed from 1st April,1986)	
1986-87	805	837	175	191
1987-88	1100	1117	300	291
1988-89	1800	1729	400	391
1989-90	2250	2149	550	Information wanting
Total	6810	6724	1425	873

Data in respect of physical achievement vis-a-vis targets for the Seventh Five Year Plan are given below:

	Targets for Seventh Plan	Revised targets for Seventh Plan as per Annual Plans	Achievements during Seventh Plan
Plan outlay(Rs.in crores)	6000	DOT 6810 MTNL 1425	6724 873 (excluding 1989-90)
Local telephone system			
Switching capacity (lakh lines)	21.00	18.84	19.61
Underground cable (pair kms.)	324.3		121.17
Direct exchange lines (lakh lines)	16.0	14.78	16.95
Telephone exchanges (Nos)	644	-	-
Trunk automatic exchanges (TAX) (Nos)	25	29	22
TAX capacity (lines)	121400	84900	80500
Subscriber trunk dialling (STD) routes point to point (Nos)	34	-	77
Manual trunk board(Nos)	1100	745	698
Coaxial cable (route kms)	13427	7401	5935
Microwave (route kms)	16895	9738	8260
Ultra high frequency (UHF) 30 channel & above (route kms)	12947	8455	9383
Open wire channel (Nos)	5000	5000	7306
Optical fibre (route kms)	20501	20501	2323
Long distance public telephones	15000	9720	6671
Telex exchanges (Nos)	100	117	144
Telex capacity (lines)			
Local	32200	22622	10760
Transit	4800	8640	3200
Telex connections (Nos)	29170	23111	18277

Above statistics reveal that while the Department has been able to fulfil the targets in respect of provision of 16 lakh telephone connections, switching capacity, STD dialling routes, UHF 30 channel and above, and open wire channels, it failed to do so in respect of underground cables, TAXs, trunk boards, microwave routes, telex capacity and optical fibre. The shortfall in respect of optical fibre was quite significant since only 2323 route kilometres of the optical fibre was laid against the target of 20501 route kms.

CHAPTER VI

APPROPRIATION AUDIT AND CONTROL OVER EXPENDITURE

11. The summarised position of actual expenditure during 1989-90 against grants and appropriations relating to the Department of Telecommunications is given below:

	Original grant/ appropriation	Supplementary grant/ appropriation	Total	Actual expenditure	Saving
			(Rs. in crores)		
Revenue					
Voted	3177.20	-	3177.20	3070.04	107.16
Charged	0.30	-	0.30	0.09	0.21
Capital					
Voted	2187.49	117.50	2304.99	2269.40	35.59
Charged	0.01	-	0.01	-	0.01
	5365.00	117.50	5482.50	5339.53	142.97

The broad results of Appropriation Audit are as follows :

(i) The supplementary grant obtained during 1989-90 constituted 2.19 *per cent* of the original grant.

(ii) The overall saving of Rs.142.97 crores represented 2.66 *per cent* of the total provision of voted grant and charged appropriation.

(iii) The reappropriation orders obtained in the month of March 1990 for augmentation of funds under the following heads were found unnecessary as the actual expenditure was far less than the original provision.

Head of Account	Original grant	Reappropriation	Actual expenditure
		(Rs. in crores)	
A-1(1) Directorate	8.60	0.42	7.75
E-4(9) Telecom Factories	0.30	0.12	0.19
E-4(10) Other Telecom Buildings	3.08	0.50	2.22
AA-1(2) Telex Systems	30.28	12.93	17.91
AA-5(2) Training Centres	6.00	2.25	4.80
AA-5(4) Store Depots	3.00	0.28	1.41
AA-6(1) Administrative Offices	7.00	1.00	5.78
AA-6(2) Staff Quarters	30.00	4.00	21.80

(iv) Supplementary grant of Rs.117.48 crores obtained mainly in March 1990 for meeting the extra expenditure for purchase of materials under the head AA.2.Local Telephone Systems AA-2(1) Telephone Exchanges Automatic proved to be insufficient as the actual expenditure exceeded the provision .

(v) There were significant savings exceeding Rs.one crore and more than 10 *per cent* of the provision under certain heads of accounts in the Revenue and Capital Sections as shown in Appendix.

(vi) Persistent savings exceeding 10 *per cent* of the provision were noticed in the following cases during the last three years.

Head of Account		Amount of saving (Rs. in crores) (percentage within brackets)		
		1987-88	1988-89	1989-90
(1)		(2)	(3)	(4)
D-1	Telecommunication Research	0.54 (15.88)	0.73 (19.36)	1.58 (39.30)
E-1	Training (Engineering)	3.73 (24.60)	5.75 (31.63)	2.11 (12.19)
E-2(1)	Maintenance of Buildings	2.14 (19.46)	3.29 (21.93)	5.61 (28.05)
E-4(1)	Telegraphs and Telex	0.67 (21.06)	1.82 (40.44)	3.63 (66.97)
E-4(4)	Transmission systems	0.82 (26.54)	0.45 (10.84)	2.94 (39.73)
E-4(6)	Telecom Training Centre	1.64 (32.80)	7.70 (70.64)	2.37 (26.33)
I-1	Stationery and Forms Printing, Storage and Distribution	7.82 (58.27)	7.91 (56.50)	7.66 (45.06)
AA-1(1)	Telegraph Offices	5.46 (45.19)	1.12 (10.41)	18.98 (63.86)
AA-3(3)	Manual Trunk Exchanges	6.98 (39.84)	9.08 (42.39)	8.45 (44.03)
AA-4(1)	Coaxial cable system	30.37 (32.81)	48.42 (36.87)	78.39 (48.02)
AA-4(2)	Other trunk cable system	5.39 (66.54)	13.62 (52.49)	13.35 (49.43)
AA-4(4)	UHF and VHF Relay systems	3.45 (17.20)	54.88 (68.34)	62.01 (59.14)
AA-5(2)	Training centre	5.11 (60.40)	3.61 (43.34)	1.20 (20.00)
AA-5(4)	Store Depots	1.24 (54.86)	6.26 (89.68)	1.59 (53.00)

(1)	(2)	(3)	(4)
AA-5(5) Telecommunication Factories	2.17 (19.74)	7.20 (69.30)	4.51 (38.55)
AA-5(8)Telecom computer systems	5.25 (63.25)	3.82 (47.75)	11.04 (73.60)
AA-6(1)Administrative Offices	6.35 (61.00)	1.69 (16.90)	1.22 (17.43)
AA-6(2)Staff quarters	5.34 (29.19)	16.45 (47.00)	8.20 (27.33)
A-7(2)Manufacture suspense	6.67 (30.32)	11.42 (45.68)	4.20 (15.00)

The persistent savings exceeding 10 *per cent* in the various heads of accounts show that the provisions under these heads were not made realistically and more budgetary control needs to be exercised.

CHAPTER VII

REVENUE

12. Arrears of telephone revenue

12.1 According to the rules, bills on account of telephone revenue are to be issued bi-monthly in respect of telephone exchanges under measured rate system and, at the choice of the subscriber, annually or bi-monthly for small telephone exchanges under flat rate system. Such bills are payable within 15 days from the date of issue. In the event of default, the telephone connection is liable to be disconnected. In each Telecommunication Circle/ Telephone District, there exists a cell which is responsible for pursuit of outstanding dues. A Board consisting of officers and entrusted with the responsibility of finding ways and means for recovery of the arrears, including resort to litigation, is also constituted in each such Circle/ District.

According to the sub-ledgers of outstanding revenue compiled by the Department, the recovery outstanding on 1st July of the following year in respect of bills issued till the end of preceding financial year was, generally, on the rise both in absolute terms and as a percentage of the total demand raised. Details are given below :

Year	Arrears as on 1st April	Demand raised during the year	Total demand	Amount collected during the year	Arrears at the close of the year	Arrears as on 1st July of the following year	Percentage of column 7 to column 4
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			(Rs. in crores)				
1986-87	22.17	941.20	963.37	917.93	45.44	35.43	3.68
1987-88	45.44	1333.71	1379.15	1293.43	85.72	49.95	3.62
1988-89	85.72	1761.27	1846.99	1705.02	141.97	82.36	4.46
1989-90	141.97	2068.91	2210.88	2004.66	206.22	124.05	5.61

While the total demand increased by 129 *per cent* in 1989-90 when compared with 1986-87, the arrears as on first July registered an increase of 250 *per cent*.

12.2 Yearwise break-up of the amount outstanding on 1st July 1990 was as under:

Year	Amount (Rs. in crores)
Upto 1980-81	1.17
1981-82 to 1988-89	48.73
1989-90	74.15
Total	124.05

A general review of the outstanding cases indicated that the arrears got built up mainly because of :

(i) delay in submission of the advice notes to the Telecom Revenue Accounts Branch (an advice note is an authority for provision, shifting and closure of telecommunication facilities and for initiating action for recovery of telephone dues by that branch);

(ii) non-disconnection of telephones where the subscribers had failed to pay the bills within the prescribed period;

(iii) non-verification of bonafides of the subscribers at the time of shifting telephones on their request;

(iv) non-review of cases where the computer failed to prepare the bills due to incomplete data; and

(v) non-application of the revised tariffs promptly.

12.3 According to departmental instructions of August 1979, the Department has to furnish to Audit by 31st August the particulars of revenue outstanding as at the end of June. The requisite information was not received by 31st August 1990 from 24 of the 52 Circles/Telephone Districts.

12.4 Categorywise breakup of the outstanding dues exceeding Rs.5,000 in respect of 28 out of 52 Circles/Districts for which information was received was as under :

Category of subscribers	Percentage
Central Government	5.1
State Governments	32.2
Central Public Sector Undertakings	0.4
State Public Sector Undertakings	0.1
Local Bodies	0.1
Other subscribers	62.1

About 62 *per cent* of the outstanding dues pertained to non-Governmental/non-institutional subscribers. These recoveries need regular follow up and vigorous pursuit.

12.5 In 27 Circles/Districts, recovery of Rs.6.72 crores was under litigation as on 1st July 1990. The progressive position was as below:

	No.	Amount involved (Rs. in crores)
Cases under litigation as on 1st July 1989	4423	2.84
Cases in which litigation proceedings were commenced during July 1989 to June 1990	3506	4.09
Cases decided during July 1989 to June 1990	433	0.21
Cases decided out of above in favour of the Department	273	0.17
Cases under litigation as on 1st July 1990	7496	6.72

The total cases decided during the year was only three *per cent* of the amount under litigation.

12.6 Besides the cases mentioned in different paragraphs of this Report, a test check in Audit of the Telecommunication Revenue Accounts of 27 Circles/Telephone Districts conducted during 1989-90 brought out non-billing in 1379 cases involving Rs.96 lakhs and short-billing in 3484 cases involving Rs.87 lakhs.

These observations were referred to Ministry in December 1990; reply has not been received (February 1991).

13. Arrears of rent of circuits and telex/intelex charges

The department provides dedicated telegraph, teleprinter and telephone circuits and telex/intelex connections to Government departments, newspaper establishments, news agencies and other subscribers on rent. Bills in respect of these facilities are issued to the subscribers bi-monthly or annually which are required to be paid within the due date mentioned on the bills. In the event of failure of the subscribers to pay the charges, the connections are liable to be disconnected. Arrears of collection on the above facilities, as at the end of March 1987 to March 1990, in respect of bills issued (excluding Mahanagar Telephone Nigam Limited) upto preceding 31st December, i.e., by allowing a lead period of three months to complete the formalities, were as under:

		Arrears as on 1st April	Demand raised during the year	Total demand	Amount collected during the year	Closing balance	Arrears at close of the year for bills issued upto December preceding
				(Rs. in crores)			
Circuits	1987-88	14.47	48.06	62.53	44.60	17.93	15.54
	1988-89	17.93	61.95	79.88	53.95	25.93	17.54
	1989-90	25.93	71.36	97.29	68.95	28.34	21.90
Telex/ Intelex Charges	1987-88	4.98	73.57	78.55	69.05	9.50	1.45
	1988-89	9.50	76.62	86.12	74.99	11.13	2.46
	1989-90	11.13	79.37	90.50	77.70	12.80	2.78

The arrears of rent of telegraph/telephone and teleprinter circuits during the last three years rose from Rs.15.54 crores to Rs.21.90 crores and those of telex/ intelex charges increased from Rs.1.45 crores to Rs.2.78 crores inspite of the fact that these arrears were reviewed periodically at all levels, viz., District, Circle and by the Department of Telecommunications itself.

Yearwise break up of the outstanding dues as on 1st April 1990 for bills issued upto December 1989 is given below:

	Rent of telegraph/ telephone and teleprinter circuits	Telex/ Intelex charges	Total
	(Rs. in crores)		
Upto 1979-80	0.15	0.08	0.23
1980-81 to 1987-88	8.35	0.96	9.31
1988-89	5.31	1.05	6.36
1989-90	8.09	0.69	8.78
Total	21.90	2.78	24.68

The classification of the dues on 1st April 1990 according to the category of subscribers in respect of claims exceeding Rs.5,000 in respect of 32 (out of 47) Telecommunication Circles/Telephone Districts for which such information was furnished by them was as given below. The total amount of such dues was Rs.5.90 crores.

	Rent of telegraph/ telephone and tele-printer circuits	Telex/ Intelex charges	Total	Percentage of total dues
	(Rs. in crores)			
Central Government	3.47	0.05	3.52	60
State Governments	0.36	0.01	0.37	6
Autonomous bodies	0.20	-	0.20	3
Press/Newspapers	0.46	-	0.46	8
Others	1.25	0.10	1.35	23
Total	5.74	0.16	5.90	100

Above data indicate that 31 *per cent* of the dues (each exceeding Rs.5,000) recoverable related to private subscribers and news agencies. Special steps to effect speedy realisation of outstanding dues are called for.

The Ministry stated, in January 1991, that efforts were being made round the year to monitor the outstanding dues, and to reduce the arrears.

14-24. Major cases of under-assessment of revenue

Though the receipts of the Department are required to be checked by the Internal Check Organisation of the Department, test check in Audit revealed a number of cases of short/non-billing as discussed below:

14. Short billing due to omission to issue bills at revised rates

The rental charges payable by the subscribers were revised from time to time, i.e., from 1st September 1980, 1st March 1983, 1st December 1986, 1st August 1988 and 1st October 1988. It was noticed during test check of a few cases by Audit that the revised rates of rental had not been applied by the Department in the following cases resulting in short billing to the extent of Rs.65.87 lakhs:

Sl.No	Particulars of lines/ cables/PABX, etc.	Pointed out by Audit in	Period of short recovery	Amount of short recovery (Rs. in lakhs)	Position of bills issued/ recovery made
(1)	(2)	(3)	(4)	(5)	(6)
	Bihar Telecommunications Circle				
1	Teleprinter circuit (TP) provided to a party of Ranchi between (a) Ranchi and Bhubaneshwar	February 1990	March 1983 to February 1991	2.37	Bills for Rs. 11.27 lakhs issued in May 1990 in respect of Serial Nos. 1 to 5 out of which Rs.2.46 lakhs pertaining to Serial No.5 were recovered in June 1990
	(b) Ranchi and Patna	-do-	March 1983 to March 1991	1.01	
	(c) Ranchi and Calcutta	-do-	September 1983 to September 1991	1.33	
2.	TP circuit between two points provided to Intelligence Bureau, New Delhi	-do-	March 1983 to September 1990	0.81	
3.	Speech circuit between two points provided to Central Command, Lucknow	-do-	December 1986 to June 1990	2.69	
4.	TP circuit between Ranchi and Daltanganj provided to State Bank of India, Patna	-do-	December 1986 to September 1990	0.60	

(1)	(2)	(3)	(4)	(5)	(6)
5.	TP circuit between Ranchi and Visakapattanam provided to Mecon (India) Ltd., Ranchi	-do-	December 1986 to December 1990	2.46	
6.	Provision of 200 lines PABX in replacement of 100 lines PABX to Army in July 1976	January 1990	September 1980 to July 1986	4.70	
	Gujarat Telecommunications Circle				
7.	Seven long distance telephone connections provided at Gandhinagar and Wadsar	January 1990	August 1988 to April 1990	1.85	Rs.1.40 lakhs recovered in March and August 1990. Recovery of balance amount was being pursued
8.	Expansion from 200 lines to 300 lines PABX provided in July 1987 to Air Force	February 1990	August 1987 to June 1990	1.41	Advance rental recovered at the lower rates applicable prior to revision from 1st December 1986 continued to be charged after provision of the facility thereafter. Bills for Rs.1.41 lakhs issued for the period August 1987 to June 1990 and advance rent bill for July 1990 to July 1991 issued in June 1990
	North Eastern Circle, Shillong				
9	Expansion of the existing telephone circuit from telecommunications building, Shillong to Tiger Exchange in December 1988	September 1989	December 1988 to November 1990	6.00	Recovered Rs.4.52 lakhs in March 1990 leaving a balance of Rs.1.48 lakhs yet to be recovered (November 1990)

(1)	(2)	(3)	(4)	(5)	(6)
	Orissa Telecommunications Circle				
10.	Leased radio telephone link circuit between Rourkela and Satara provided to Rourkela Steel Plant authorities in April 1970	July 1981, December 1983, October and December 1986	March 1983 to March 1990	9.64	Amount recovered in January 1990
	Punjab Telecommunications Circle				
11.	Eight telex connections provided to various parties by Jalandhar Telecommunications Manager	April 1989	August 1988 to March 1989	1.04	Amount recovered in May 1989
12	Provision of 10 Kms of 20 pairs/6.5 lbs under ground cable to Air Force authorities in May 1989	October 1989	May 1989 to May 1990	1.51	Bills issued in February 1990 and amount recovered in March and September 1990
	Rajasthan Telecommunications Circle				
13.	Provision of 14 kms of 20 pairs/20lbs underground cable to Air Force in January 1989	January 1990	January 1989 to January 1991	9.64	Amount recovered in March/December 1990
	Tamil Nadu Telecommunications Circle				
14.	Conversion of a 100 lines extendable type PABX board (ordinary) of Tuticorin Port Trust authorities in March 1981	February 1990	December 1986 to May 1990	3.85	Amount recovered in November 1990
	Uttar Pradesh Telecommunications Circle				
15.	Provision of a speech circuit to Army in January 1987 (distance 188 Kms)	April 1990	October 1988 to January 1991	1.06	Recovery made in July 1990
16.	21 non-exchange lines/ private wires provided by Kanpur Telephone District	August 1989	August 1988 to April 1990	1.54	Rs.0.41 lakh recovered. Recovery of balance amount was being pursued
17.	A non-exchange line provided to National Thermal Power Corporation (Singrauli) in September 1980	January 1989	September 1980 to September 1989	2.10	Amount recovered in September 1989

(1)	(2)	(3)	(4)	(5)	(6)
8.	Three PABX boards provided to Army	September 1989	December 1986 to June 1990	5.91	Bills issued for Rs.5.91 lakhs, recovery made of Rs.4.63 lakhs in March 1990
	West Bengal Telecommunications Circle				
9.	Provision of a wireless-cum- radio telegraph circuit to National Coal Development Corporation from Sanctoria to Calcutta in April 1975	November 1989 and March 1990	March 1983 to September 1990	4.35	Revised bills issued in July 1990 and recovery was awaited

Departmental rules provide that the Subscriber Record Cards of all the exchanges should be subjected to an internal review by the reviewer under the control of Accounts Officer, Telephone Revenue, in such manner as to ensure that the entries in the Subscriber Record Cards relating to each connection get checked at least once a year. The non-detection of short billing indicates that proper checks were not applied by the authorities concerned. The Internal Check Organisation of the Department also failed to detect all these cases during their review of the records of the Department.

In respect of Serial Nos. 1 to 5, Ministry stated, in January 1991, that Telecommunication District Engineer, Ranchi had been directed to take suitable action against the delinquent officials. In respect of Serial No. 8, Ministry stated that in order to avoid such omissions in cases where the rent and guarantee terms had been communicated on provisional basis, a register had been opened for watching fixation of the final rent. In respect of Serial No. 9, Ministry stated that precautions had been enjoined by the Chief General Manager, North Eastern Circle on his units to ensure that instructions for revision of tariff were put into practice as soon as they were received. In respect of Serial Nos. 12 and 15, Ministry stated that the case for fixation of responsibility and remedial action was being examined and necessary instructions had been issued to avoid such lapses in future. In respect of Serial No. 13, Ministry stated, in February 1991, that Rajasthan Circle had assured that guidelines on the subject would be followed strictly on all occassions. In respect of Serial No. 14, Ministry stated that shortage

of staff and frequent changes of incumbents in the relevant charge contributed to the non-issuance of bills at the revised rates. The cases at Serial Nos. 6, 10 and 19 were referred to Ministry in July 1990; no reply has been received (February 1991).

15. Non-billing due to non-receipt of advice notes

As per departmental rules, completed advice notes in respect of telecommunication facilities provided are to be sent by the operating branch of the Telephone District to the Telephone Revenue Accounts (TRA) branch within a week of the event affecting the connections in order to enable the TRA branch to post them in the Subscriber Record Cards (SRCs) and issue bills to the subscribers. The rules also provide that TRA branch should obtain a statement of non-directory items from the operating branch in April each year and check it with SRCs to ensure that rent in respect of all the telecommunication facilities was being recovered. There was non-recovery of Rs. 72.16 lakhs in respect of the following 15 cases due to non-receipt of completed advice notes, which omission also remained undetected during check of SRCs:

Sl.No	Particulars of lines/cables/ PABX, etc.	Pointed out by Audit in	Period of non-recovery	Amount of non-recovery (Rs. in lakhs)	Position of bills issued/recovery made
(1)	(2)	(3)	(4)	(5)	(6)
	Bihar Telecommunications Circle				
1.	Provision of three non-exchange lines to Bihar Electricity Board in September 1980	October 1989 and February 1990	September 1980 to September 1990	4.36	Bills issued in May 1990. Information about recovery awaited(November 1990)
2.	Provision of a leased circuit to Coal India Limited,Calcutta between Ranchi and Dhanbad in February 1988	February 1990	February 1989 to February 1991	1.17	Recovery made in June 1990
	Gujarat Telecommunications Circle				
3.	Speech circuit provided to the Indian Navy in November 1987	February 1990	November 1988 to July 1990	0.98	Bills issued in March 1990. Information about recovery awaited(November 1990)
4.	Provision of 50 pairs/ 20 lbs underground cable to the Indian Navy in August 1987	February 1990	June 1987 to June 1990	10.56	Amount of Rs.4.02 lakhs recovered in June 1990 and the balance recovery was awaited (November 1990)

(1)	(2)	(3)	(4)	(5)	(6)
	Jammu and Kashmir Telecommunications Circle				
5.	Trunk telephone circuit provided to Air Force in August 1982	August 1988	August 1982 to March 1990	1.97	Bills issued in May 1989. Information about recovery was awaited (November 1990)
	Madhya Pradesh Telecommunications Circle				
6.	(5+20) PBX Board with twenty extensions and four extensions to extensions provided to Bhilai Steel Plant authorities	Sept-ember 1989	May 1983 to July 1990	2.32	Bills issued for Rs.2.32 lakhs. Information about recovery was awaited (November 1990)
	Punjab Telecommunications Circle, Ambala				
7.	Non-exchange line between Ropar and Nangal provided in December 1986 to Hydel Construction Division.	Janury 1989	December 1987 to December 1989.	2.72	Recovery made in February 1989
8.	Wireless circuit provided to Himachal Pradesh Government in November 1987	August 1988 and August 1989.	November 1987 to March 1990	3.31	Recovery made in April 1989 (Rs.1.89 lakhs) and in March 1990(Rs.1.42 lakhs)
	Rajasthan Telecommunications Circle, Jaipur				
9.	Provision of hot lines under dedicated tele-communication network to Rajasthan Government between Jaipur and 12 district headquarters	November 1989	May 1987 to June 1990	2.49	Bills issued in respect of Serial Nos 9 to 11 in January 1990. Information about recovery awaited (November 1990)
10.	Local leads of 11 hot lines.	-do-	August 1988 to June 1990	1.47	
11.	Speech circuit (hot line) between Dholpur and Jaipur provided in July 1987.	-do-	July 1987 to June 1990.	2.63	
	Uttar Pradesh Telecommunications Circle				
12.	Five Kms underground cable provided to Army in February 1984.	March 1990	February 1984 to January 1991	9.59	Bills issued for Rs. 7.80 lakhs in March 1990. Information about recovery awaited (November 1990)
13.	Speech circuit provided to Army in May 1988	Novem-ber 1989	May 1988 to June 1990	5.02	Rs.4.88 lakhs recover-ed in March 1990 and balance recovery was awaited(November 1990)

(1)	(2)	(3)	(4)	(5)	(6)
14.	Speech circuit provided to Army in January 1988	April 1990	January 1988 to January 1991	3.96	Bills issued in June 1990. Information about recovery awaited (November 1990)
15.	Speech circuit provided between Moradabad and Shahjahanpur in February 1975 to Northern Railway	January 1990	February 1975 to February 1990	19.61	Amount recovered in April 1990

The omissions to issue bills were not detected by the Internal Check Organisation of the Depart-ment.

The Ministry accepted the facts and figures in respect of Serial Nos.4 to 11,14 and 15. In respect of Serial No.4, Ministry stated, in January 1991, that concerned Telecommunication District Engineer, had taken precautions to prevent such lapses by opening a register to watch the progress of work and issue of demand and advice notes. In respect of Serial No.5,6 and 14, Ministry stated that the concerned Telecommunication District Managers/Engineers (TDMs/TDEs) had been asked to furnish the reasons for non-issuance/non-receipt of advice notes and fix responsibility for the lapse. In respect of Serial No. 7 it was stated that the advice notes were now being prepared and exchanged with the Accounts branch. In respect of Serial No. 8, a register was being maintained to review the periodical schedules relating to issuance of bills of non-directory items. In respect of Serial Nos. 9 to 11, it was stated that a proposal was under examination by the Rajasthan Circle to decentralise the work of issuance of advice notes and billing to the different TDEs and added that it was hoped that with the streamlining of the existing procedure there may not be any case of non-billing and non-realisation of dues in future. The Ministry further stated that responsibility could not be fixed as many units were involved. In respect of Serial No. 15, Ministry stated that suitable instructions had been issued for avoidance of such lapses in future. In respect of other cases, though the matter had been referred to Ministry in June to August 1990, reply has not been received (February 1991).

16. Non-revision of rent

Departmental rules prescribe that in cases in which it has not been specifically laid down that standard flat rates should be charged for providing telecommunication facilities, the rent for all such facilities should be calculated both at flat rates as well as on the basis of estimated capital cost and higher of the two should be charged. The rent so fixed

should be treated as final except where the actual cost exceeds the estimated one by more that 10 *per cent* in which case the rent already fixed should be revised keeping in view the revised cost and quoted to the subscriber. Failure of the Department to claim rent based on the revised cost of the work resulted in short realisation of rent amounting to Rs.10.33 lakhs in three cases detailed below:

Sl.No.	Particulars of lines/ PABX etc	Pointed out by Audit in	Period of short/ non-recovery	Amount of short/ non recovery (Rs. in lakhs)	Position of bills issued/ recovery made
(1)	(2)	(3)	(4)	(5)	(6)
	Jammu and Kashmir Telecommunications Circle				
1.	Provision of T-43 board and a booking position to the Army in March 1982	May 1988	March 1982 to March 1989	1.24	Amount recovered in June 1990
	Uttar Pradesh Telecommunications Circle				
2	Provision of T-43 board to Air Force in December 1987	April 1990	December 1987 to December 1989	1.07	Bill issued in May 1990. Information about recovery was awaited (August 1990)
	Orissa Telecommunications Circle				
3	Provision of telecommunications line facilities to All India Radio, Sambalpur in June 1985	June 1989	June 1985 to March 1991	8.02	Recovery of Rs.2.97 lakhs made in March 1990, bills for remaining amount were issued in June 1989 and March 1990 and information about recovery was awaited (September 1990)

All the above cases remained undetected by Internal Check Organisation of the Department.

These cases were referred to the Ministry in June and July 1990. In respect of the case at Serial No.1, the Ministry stated, in November 1990, that investigation regarding the reasons which caused the lapse, and fixation of responsibility therefor, had not been possible because of disturbed conditions in that state. Reply in respect of the remaining two cases had not been received (February 1991).

17. Rent for a wireless station

The Department of Telecommunications is operating wireless stations for the Ministry of Shipping and Transport at various coastal stations on rent and guarantee basis. Tuticorin is one amongst them and annual rent of Rs.1.39 lakhs was being charged from 1st August 1975.

The Department decided in January 1977 to replace the existing equipment in all coastal wireless stations, including Tuticorin, as the life of the existing equipment had expired, and the Double Side Band transmission had been totally discontinued according to the latest recommendations of the World Maritime Administration Conference. The Ministry of Shipping and Transport agreed for the replacement and upgradation of the equipment at a revised rent of Rs.3.42 lakhs *per annum* per station based on the estimated cost of equipment being Rs.8.80 lakhs. New equipment was installed in Tuticorin Wireless Station in a phased manner during 1980 to 1986, cost of which was estimated to be Rs.13.61 lakhs requiring further revision of rent.

On being pointed out by Audit, Department issued revised bills for Rs. 9.05 lakhs to the Director General of Shipping in November 1988 and the amount was recovered in April 1989.

18. Short-billing for circuits leased to Railways

Rentals for the lines and wires/circuits leased to Railways are initially recovered on a provisional basis pending finalisation of rates which are decided later for a block of five years by the Department of Telecommunications in consultation with the Railway Board. The Department fixed rental charges from 1981-82 to 1985-86 in June 1988. The rentals for 1986-87 and onwards were to be revised/ charged on a provisional basis at the tariff decided for the previous five year block.

It was noticed in Audit that the Department did not take action to revise the rental and issue the arrear bills in respect of the following telecommunication facility resulting in short recovery of Rs.4.19 lakhs:-

Sl.No.	Particulars of facility and its provision	Pointed out by Audit in	Period of short recovery	Amount (Rs.in lakhs)	Date of recovery
	Haryana Telecommunications Circle, Ambala				
1.	Seven speech circuits leased by Telephone District, Ambala	September 1989	April 1982 to June 1990	1.84	April 1990
	Jammu and Kashmir Telecommunications Circle				
2.	Teleprinter circuit provided between Srinagar and Jammu in May 1981	November 1989	May 1981 to March 1990	2.35	Bill issued in January 1990

The Ministry stated in September 1990 that the officer responsible has been suitably advised in respect of Serial No. 1 above. In respect of Serial No. 2, the Ministry stated, in February 1991, that the matter was being pursued with the Northern Railway authorities.

19. Loss of revenue due to failure to observe the prescribed procedure

In response to a firm demand placed by a subscriber of Barabanki on the Divisional Engineer, Telephones, Faizabad, a private automatic branch exchange (PABX) was provided to it in January 1987. The rental of the PABX was fixed at Rs.0.30 lakh *per annum*.

The subscriber intimated, in September 1988, that from the time of its installation, its two selectors were out and that the maintenance of PABX was not satisfactory. The subscriber, therefore, surrendered the PABX in April 1989.

According to the instructions issued by the Directorate in August 1981, and provisions of departmental rules, the minimum period of guarantee in respect of PABX should be seven years which should be communicated to the subscriber and got accepted before provision of the service. In this case, such prescribed procedure was not observed. This resulted in loss of revenue of Rs. 1.50 lakhs. No action has so far (November 1990) been taken against the defaulting officials. The case remained undetected by Internal Check Organisation.

On being pointed out by Audit in December 1989, Telecommunication District Engineer, Faizabad stated in November 1990 that a bill for Rs. 1.50 lakhs has since been issued.

The matter was referred to the Ministry in June 1990; reply has not been received (February 1991).

20. Short billing of rentals

A 20+200 PABX in the office of the Electronics Corporation of India Limited, Hyderabad was replaced by a 30+300 capacity PABX in October 1987.

It was noticed in Audit, in June 1989, that due to non-comparison of entries in the Subscriber Record Card with the annual statement of non-directory items, the Telephone Revenue Accounts wing of the Department continued to charge rent as for the 20+200 PABX instead of the new 30+300 PABX (and also for the concerned extensions) even after November 1987 resulting in short billing of Rs.6.07 lakhs. On being pointed out in Audit, the recovery was made by September 1989. The recovery remained undetected during internal review as well as internal check by the Department.

The Ministry stated, in August 1990, that the official concerned has been warned and as a remedial measure, a review was now being done of the connected records.

21. Delay in recovery of rentals in respect of teleprinter circuits

Singareni Collieries Company Limited was provided with a teleprinter circuit from Bellampalli to Coal Chemical Complex in April 1980. Later on, at the request of the company, the circuit was shifted to operate between Bellampalli and Ramakrishnapur from December 1988.

It was noticed by Audit, in June 1988, that due to non-transfer of records upon bifurcation of the concerned Division, rent and installation charges in respect of the above circuit and the teleprinter machines were not being recovered. This remained undetected by the Internal Check Organisation of the Department also.

Ministry stated, in October 1990, that Rs. 1.04 lakhs on the above account have since been recovered in January/February 1990 and that the Chief General Manager, Andhra Pradesh Telecommunications Circle was being requested to take remedial measures for avoidance of similar lapses in future.

22. Short recovery in respect of a contribution work

In August 1979, the Tamil Nadu Electricity Board (TNEB) placed a firm demand for provision of a microwave link between its Korattur sub-station and its headquarters office at Anna Salai, Madras as a contribution work. The General Manager, Telecommunication Projects, Madras sanctioned, in August 1982, a project estimated to cost Rs.33.34 lakhs and the TNEB deposited that amnount in November 1982. The link costing Rs.53.38 lakhs was commissioned in April 1986 with necessary staff positioned for its maintenance.

Though the expenditure exceeded the amount of

deposit, this could not be detected by the Department for initiating action for recovery of the balance since the work was sanctioned as a capital work and not as a deposit work. This mistake remained undetected during internal check also.

Consequently, interest became recoverable on the excess of expenditure over the deposit received, which was not demanded. Total short recovery amounted to Rs. 41.80 lakhs till March 1989 (construction charges: Rs.20.04 lakhs, maintenance charges: Rs.15.58 lakhs, interest on unadjusted outlay: Rs.6.18 lakhs).

On being pointed out in Audit in April 1989, the Department issued bills for Rs.35.97 lakhs in June 1989. Bill for the balance amount of Rs.5.83 lakhs had not yet (May 1990) been issued. Information about recovery was awaited (January 1991).

Thus, sanction of the project under a wrong head and the Department's failure to take timely action otherwise for recovery of the excess cost and other dues resulted in non-recovery of Rs.41.80 lakhs from TNEB.

The matter was referred to Ministry in June 1990; reply has not been received (February 1991).

23. Non-recovery of compensation for damage to departmental cables

Test audit of the accounts and records of Telecommunications District Engineer (TDE), Jammu and TDE, Srinagar in August 1987 and October 1988 respectively indicated that claims, towards compensation due for damages to the cables laid by the Department, amounting to Rs.14.91 lakhs had not been raised against various State Government organisations (Rs.14.73 lakhs) and a private party (Rs.0.18 lakh).

On being pointed out, bills for Rs.5.09 lakhs were issued by the TDE, Jammu in June 1989. Bills for the balance amount have not been raised by the TDE, Srinagar (August 1990) even though the omission was brought to the notice in October 1988.

The Ministry stated, in January 1991, that vigorous efforts were in progress to realise amount of Rs.5.09 lakhs.

24. Short/non-recovery of rental charges due to various omissions

In the following cases, rent amounting to Rs.48.50 lakhs came to be short realised mainly due to certain omissions, like incorrect calculation of the guarantee

period, non-review of the Subscriber Record Cards, application of incorrect rates of departmental charges on works expenditure, incorrect computation of rent, non-comparison of the flat rate of rent with the rent based on capital cost, etc.

Sl.No.	Particulars of line/ cable/PABX, etc.	Audit observations	Pointed out by Audit in	Period of Short/ non-recovery	Amount of Short/ non-recovery (Rs. in lakhs)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Assam Telecommunications Circle					
1.	Fifty lines private branch exchange and three kilometres each of 100 pairs/ 10 lbs and 20 pairs/ 10 lbs cable provided to Air Force in October 1983	Due to incorrect fixation of annual rent at Rs.1.40 lakhs with five years guarantee instead of correct rent of Rs.2.36 lakhs with 10 years guarantee, there was short realisation of rent	September 1989	October 1983 to September 1991	12.93	Bill for Rs.5.26 lakhs issued in July 1990; bill for the balance yet to be issued (August 1990)*
	Bihar Telecommunications Circle					
2	Provision of 20+100 lines non-extendable PBX board to Defence authorities in February 1965	Non-billing in respect of 19 external extensions for several years	April 1989	May 1976 to April 1989	2.25	Bills issued in May 1987 and November 1989*

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Karnataka Telecommunications Circle					
3.	Provision of microwave communication link for exclusive use of Indian Remote Sensing Satellite Mission between their space craft control centre at Peenya and Bangalore Trunk Exchange in March 1987	The annual recurring expenditure was not worked out taking into account upward revision of departmental percentages effective from 1985-1986	March 1989	September 1987 to March 1990	11.24	Recovery made in December1989
	Kerala Telecommunications Circle					
4.	Five data circuits provided to Collector of Central Excise,Ernakulam,between Ernakulam and Cannonore, Kozhikode, Trichur, Kottayam and Trivandrum in May 1987	In the rental bill issued in October 1989, for the period from May 1987 to September 1988, the rental for the five circuits was calculated erroneously as Rs.1.35 lakhs for 146 days only in stead of Rs.4.73 lakhs for one year and 146 days resulting in short realisation	January 1990	October 1987 to September 1988	3.38	Supplementary bill issued in January 1990*
	Tamil Nadu Telecommunications Circle					
5.	Provision of a broadcast quality circuit consisting of three channels to All India Radio between Madras and Tiruchirappalli in January 1978	Rent was claimed for only one channel instead of three channels	October 1989	May 1978 to April 1990	18.70	Bills issued*

** Information about recovery was awaited (January 1991)*

In respect of Serial Nos. 2, 3 and 5, the Ministry stated that re-organisation of the concerned offices had resulted in the delay in issue of bills and that they had been instructed suitably to take remedial action to avoid such lapses in future. In respect of Serial No. 4, the Ministry stated, in December 1990, that necessary action against the erring officials had been taken and instructions had been issued for 100 *per cent* checking of the subscribers record cards by the supervisory staff. The case at Serial No. 1 was referred to the Ministry in June 1990; reply has not been received (February 1991).

25. Short recovery of rental and other charges of telephones

The rent, installation fee and shifting charges recoverable from the

subscribers of a particular exchange vary with reference to the equipped capacity of the exchanges in the local area concerned.

As per departmental rules, when two or more exchanges exist within the limits of a municipality, all the exchanges are to be treated as local area exchanges. The rules further provide that the local area of a telephone system can be so treated by the telegraph authority by issuing a notification in the gazette to this effect after publicly calling for and considering the objections and suggestions from the subscribers of the said telephone system and will have applicability only thereafter.

At Sawaimadhopur, two telephone exchanges having a capacity of 400 lines each, i.e., a total of 800 lines, are functioning within its municipal limits from February 1988, prior to which total number of lines in the local area system was less than 500. From February 1989, one of the exchanges, viz., Railway Station Exchange, was expanded to 600 lines capacity, thus increasing the total capacity of the local area system from 800 to 1000 lines. It was noticed during audit, in October 1988 and February 1990, that the subscribers at Sawaimadhopur were, however, being charged at Rs.300 instead of Rs.800 towards installation fee and Rs.150 instead of Rs. 600 towards shifting charges from February 1988 and Rs.140 instead of Rs.160 towards bimonthly rent from February 1989. This was due to the fact that the requisite notification which ought to have been issued prior to February 1988 had not been issued till the date of audit.

The declaration of the two exchanges as multi-exchange system was referred by the Telecommunications District Engineer, Sawaimadhopur to the Chief General Manager, Rajasthan Telecommuni-cations Circle, Jaipur in July 1988. Approval of the latter for the requisite declaration was conveyed only in March 1990 giving it retrospective effect from February 1988. It is doubtful whether the Department followed the prescribed procedure in effecting the recoveries retrospectively. The Ministry stated, in October 1990, that Rs.2.14 lakhs out of Rs.2.20 lakhs consequently due for recovery towards short realisation had since been recovered and the unit had been asked to fix responsibility (for the lapse and the delay).

The omission remained undetected in internal review as well as in internal check.

CHAPTER VIII

REVIEWS

26. In-house computers in four metropolitan telephone districts

26.1 Introduction

The Department of Telecommunications (DOT) introduced computerisation of telephone billing in Bombay Telephones in October 1971, followed by Calcutta, Delhi and Madras Telephones in April 1973. Compilation and printing of the telephone directory was computerised in Bombay Telephones in 1974 followed by Delhi Telephones in 1978. These functions were carried out by hiring computer time/services from outside agencies, spending around Rs.105 lakhs *per annum*. In course of time, this arrangement was considered unsatisfactory on account of the following grounds, among others.

-delay in issue of bills and compilation of telephone directory as the Department had no control over hired computers.

-avoidable waste of effort in data preparation owing to the computer systems in the four centres being of different types/configuration.

-high cost of rental vis-a-vis own computer.

The Department, therefore, decided to establish departmentally run in-house computer systems in four metropolitan districts of Bombay, Calcutta, Delhi and Madras. The related proposal of the then Posts and Telegraphs Board was approved by the Government in July 1981. The project estimate for Rs.537 lakhs was sanctioned in April 1982.

26.2 Scope of Audit

Aspects of procurement, installation and impact of in-house computers at Bombay, Calcutta, Delhi and Madras were reviewed by Audit mainly between March and September 1990. An essential feature of the study was to examine the extent of its utilisation with reference to its set objectives.

26.3 Organisational set up

The central computer cell of the DOT functions as the nodal point for the introduction of computerisation in all its units and is also responsible for control and administration of the computer operations in the Department. It also monitors the progress on computerisation of each application on in-house computers and periodical progress reports are submitted to Telecommunications Commission for further directions. The cell is headed by a full time Deputy Director General assisted by four Assistant Directors General.

At the four metro districts there is a nucleus organisation for preliminary

project work and a regular organisation for installation, maintenance and operation.

26.4 Highlights

The review brings out, *inter alia*, the following:

-Against the estimated cost of Rs.1366 lakhs, total expenditure on the project till March 1990 amounted to Rs.1583 lakhs.

-After obtaining Government approval to the procurement of in-house computers in July 1981, the Department took over four years to place the purchase orders for the computers. The delay was a result of deficiency in the tendered specifications of equipment to adequately meet the intended functions. This entailed avoidable additional cost of Rs.146 lakhs due to variation in exchange rate and price escalation, apart from the Department continuing to spend Rs. 105 lakhs per annum on private computer hire.

-In Delhi, non-completion of civil works by the Department led to delay of five months in commissioning the computer during which period expenditure on computer hire continued to be incurred at the rate of Rs.1.62 lakhs per month, besides Rs.1.21 lakhs spent towards insurance of the equipment till its installation.

-After the receipt of the computers, there were delays of varying periods in their utilisation for the intended purposes.

-Due to non-development of standardised software for the telephone billing even after a lapse of over 3 1/2 years of commissioning of the computer at Bombay, it continues to employ hired software for that purpose. This has also resulted in non-computerisation of the billing of telex, private wires, circuits and non-exchange lines. Even the use of hired software on the in-house computer for telephone billing was delayed by six months at Bombay and Calcutta. Consequently, the anticipated benefits did not accrue and Rs.18.84 lakhs had to be spent on computer hire during the six months.

-With the installation of the in-house computer, the Department had envisaged a reduction in the billing cycle by two to three weeks resulting in speedier realisation of revenue. In Bombay, the billing cycle has been advanced by a week, from February 1990. But in Calcutta, Delhi and Madras there has been no reduction in the billing cycle, though billing on the in-house computer was introduced there between September 1986 and April 1987. As a result, the Department has not mostly attained the envisaged benefit of interest of

Rs. 111 lakhs per annum, based on 1982-83 revenue figures, through speedier realisation of revenue.

-Despite commencement of billing on the in-house computer from September 1986-April 1987, proportion of outstanding telephone dues to total demand was, generally, on the rise, instead of being on the decline, during 1987-90 vis-a-vis the position prior to 1986-87, in Bombay, Calcutta and Madras, while in Delhi, there was only a marginal improvement. As such, the benefit of speedier realisation of dues as anticipated on account of computerisation had not materialised.

-There were delays at one or more of the four metros in use of in-house computer for directory compilation and printing, inventory control, cable and commercial records and commercial system.

-In Calcutta, store accounting and inventory control were being done on separate mini-computers instead of in-house computer. In the remaining three metros, these functions were yet to be introduced on the in-house computer.

-The cable data base has been fed into the system partially in the four metros with the result that improvement and speed in processing of complaints and fault clearance has not materialised to the extent expected.

-Delay of nearly two years in the final acceptance of the directory enquiry software by Bombay Telephones led to similar delays at the three remaining metros. As against prescribed response time of a maximum of five seconds, actual response in Calcutta for any simplest enquiry during busy hours was six seconds while information for Bombay, Delhi and Madras was not available.

-Due to inadequate memory provision and processing speed of the main computer, the on-line fault control system had to be off-loaded from it and put on to separate mini-computers resulting in an additional expenditure of Rs.264.03 lakhs so far. Further, in the absence of a full fledged cable data base, benefits from the application of this system would be limited till such data are fully recorded.

-Even after off-loading the on-line fault control system from the in-house computer, it could not cater to the remaining applications adequately and had to be upgraded within five years involving an expenditure of Rs.189.81 lakhs in Bombay, Calcutta and Delhi. This was despite the fact that the anticipated load (working connections) had not been

reached so far (March 1990).

-Injudicious selection of a computer model in 1985 that could not cater to the intended requirements, in preference to a better alternative available then, led to an avoidable overall expenditure of Rs.377.01 lakhs.

-With the installation of the in-house computer, there was no need for setting up of the Regional Billing Centre in Madras in September 1987 involving an expenditure of Rs.87.95 lakhs. The Billing Centre also remained unused for billing purposes since inception as E-10-B exchanges did not come up in the Southern Region as envisaged. Even after six years of receipt of costly imported equipment, it has not been utilised.

26.5 Functions of in-house computer

The following functions were to be discharged with the help of the in-house computer:

(a) Telephone billing and credit control;

(b) Telephone directory compilation and printing;

(c) Cable and commercial records;

(d) Inventory control;

(e) On-line directory enquiry (197)@

(f) On-line fault control service (198)@@

The proposal was originally expected to cost Rs.537 lakhs (later revised to Rs.1366 lakhs) and likely to result in an annual savings of Rs.130 lakhs(later revised to Rs.300 lakhs) on account of reduced man-power, speedier billing and speedier cable maintenance.

26.6 Procurement of main computers

Global tenders for supply of computers were invited in November 1981. The systems requirement was outlined as under :

(i) The system should be capable of meeting the then requirement of computer time and the requirement for projected growth upto 1995.

(ii) It should be capable of meeting the load requirements for the next five years with enough potential for add-on facilities for requirements upto 1995. There should not be any necessity for any complete replacement of the equipment at least upto 1995.

(iii)It should be capable of performing on-line functions required for directory enquiry.

@ On line means answering directory enquiry(197) by tapping computer memory.
@@ On-line means detecting location of fault on receipt of complaint (198) by tapping computer memory.

(iv) The response time(time between the last character of the enquiry entered and transmitted from a terminal and the appearance of the first character of reply on that terminal screen) for directory enquiry should not be more than five seconds and on an average it should be three seconds, when at least 100 terminals are attached to each centre. Each central processing unit should have access to the total data base.

The tenders were opened in January 1982 and offers were evaluated and short-listed by the Department. The CMC Limited, a Government of India enterprise, which was asked to examine the offers, opined that the hardware and software specifications mentioned in the tender on the basis of recommendations of an inter-departmental group of officers, and the offers received in response thereto, would not adequately meet the envisaged object of on-line directory enquiry and on-line fault control system. Requirement of hardware (disc capacity) and software development work was, therefore, revised and four short-listed tenderers were asked to modify their offers by April 1983 and to confirm the performance guarantee for response time for better than five seconds for directory enquiry even when 200 terminals(instead of 100) were attached to each centre.

The Technical cum Commercial Evaluation Committee constituted by the Department of Electronics to evaluate the offers recommended in April 1983 acceptance of the offer of a foreign firm 'A' to supply ICL 2958 system for the four metropolitan cities.

The estimated cost of the project escalated from Rs.537 lakhs approved in July 1981 to Rs. 1366 lakhs mainly on account of the following:

(i)additional hardware and software (Rs.510 lakhs),

(ii)provision for uninterrupted power supply system, vehicles, etc., not included in the earlier project (Rs.173 lakhs),

(iii)variation in exchange rate (Rs.90 lakhs),

(iv) price escalation (Rs.56 lakhs).

Approval of the Government of India for Rs.1366 lakhs was accorded in April 1985. Expenditure booked till 31st March 1990 against this sanctioned estimate was Rs.1074 lakhs. In addition, Rs.509 lakhs were spent on additional equipment for fault control, upgradation, etc. Total expenditure on the project so far (March 1990) amounted to Rs.1583 lakhs.

The detailed purchase order for supply of four ICL 2958 computers was placed by DOT on firm 'A' in June 1985, almost four years after the initial sanction given in July 1981 and two years of the recommendation of the Evaluation Committee. This delay led to an extra expenditure of Rs.146 lakhs on account of increase in exchange rate (Rs.90 lakhs)

and escalation* in cost of air-conditioning plant, electrical installations, staff costs etc., (Rs.56 lakhs). Of this, Rs.45 lakhs were due to exchange rate variation caused by the delay of about two years in placing the order after April 1983. Meanwhile, the Department continued to incur an expenditure of Rs. 105 lakhs *per annum* for hiring computer time/services.

Stipulated and actual dates of supply of the computers were as under:

	Stipulated		Actual	
Bombay	August	1985	November	1985
Calcutta	October	1985	December	1985
Delhi	December	1985	January	1986
Madras	February	1986	March	1986

26.7 Installation and commissioning of the system

As per the Department's assessment, the system was expected to take two to three months for installation. After taking into account the testing period, the computers should have been commissioned within four months of their receipt. Dates of commissioning of the in-house computers on this basis and the actual dates were as under:

Place	Desired Dates	Actual Dates	Delay (in months)
Bombay	March 1986	October 1986	Seven
Calcutta	April 1986	May 1986	One
Delhi	May 1986	October 1986	Five
Madras	July 1986	August 1986	One

The delay in Bombay was caused by the time taken in replacing the equipment damaged in transit.

In terms of the agreement the Department was responsible for providing an installation site including proper power supply and air-conditioning in accordance with the manufacturer's site preparation specification at least 30 days prior to the arrival of the

*Based on estimated cost escalation between July 1981 and April 1985, precise information about actual cost not being readily available (January 1991).

equipment at site. For Delhi Telephones, the equipment was received in January 1986, but acceptance testing of the site was completed only in July 1986 due to non-completion of false flooring, false ceiling and air-conditioning ducting. During the intervening period, a sum of Rs.1.21 lakhs was also incurred by way of insurance charges for the equipment. In addition, the delay of five months in commissioning the system entailed expenditure on computer hire at the rate of Rs. 1.62 lakhs per month.

26.8 Utilisation

26.8.1 Software:- There were delays in introduction of various applications on the in-house computer. The target date for introduction of different applications as mentioned in the Activity Reports for period subsequent to the receipt of the computers and the date of actual introduction were as under:

Sl.No.	Item	Targeted date of application	Actual date	Delay (in months)
(1)	(2)	(3)	(4)	(5)
01	Billing system			
	Bombay	August 1986	February 1987	6
	Calcutta	October 1986	April 1987	6
	Delhi	February 1987	February 1987	-
	Madras	September 1986	September 1986	-
02	Directory compilation and printing			
	Bombay	October 1987	September 1987	-
	Calcutta	December 1986	Still in process	39
	Delhi	April 1987	September 1987	5
	Madras	September 1986	September 1987	12
03	Store accounting			
	Calcutta	June 1986	September 1986	3
04	Inventory control			
	Calcutta	November 1986	July 1987	8
	Bombay) Delhi) Madras)	No targets fixed	Not implemented	
05	Cable and commercial records			
	Bombay	September 1986	December 1989	39
	Calcutta	September 1986	Still in process	43
	Delhi	October 1986	Still in process	42
	Madras	December 1986	March 1989	27

(1)	(2)	(3)	(4)	(5)
06	Commercial system			
	(i) Wait-listed connections			
	Bombay	June 1986	June 1986	-
	Calcutta	May 1986	Not implemented	48
	Delhi	November 1986	Still in process	40
	Madras	September 1986	March 1989	30
	(ii) Working connections			
	Bombay) Calcutta) Delhi) Madras)	No targets fixed	Not implemented	
07	Directory enquiry			
	Bombay	December 1986	September 1988	21
	Calcutta	June 1987	April 1987	-
	Delhi	August 1987	June 1987	-
	Madras	March 1987	July 1988	16
08	Fault control and analysis			
	Bombay	August 1986	June 1989	34
	Calcutta	December 1986	Still in process	40
	Delhi	December 1986	Still in process	40
	Madras	December 1986	March 1989	27

The above applications are discussed in the succeeding paragraphs.

26.8.2 Telephone billing and credit control:- In the case of telephone billing, the standardised software is still not ready even after a lapse of three and a half years of commissioning of the computer resulting in non-conversion from hired software system to the standardised departmental software as envisaged. This has further resulted in non-computerisation of the billing of telex, private wires, circuits and non-exchange lines.

Prior to installation of the in-house computer, computer time was being hired for telephone billing. The commencement of billing on the in-house computer was delayed at Bombay and Calcutta. This delay necessitated extra expenditure of Rs.18.84 lakhs (Bombay Rs.12 lakhs, Calcutta Rs.6.84 lakhs) on payment for the hired computer.

The delay in Calcutta was attributed to difficulties in programme conversion and training of personnel. It was also observed that telephone billing system in Calcutta,

being run on the in-house computer since April 1987, suffered from certain difficulties in billing and accounting to overcome which an additional expenditure of Rs.54.84 lakhs was incurred during 1987-90 on apparatus and plant.

In the absence of development of standard software package for telephone billing by Bombay Telephones for all the four metros, Madras Telephones, which had introduced seven digit telephone numbers, entrusted the work of carrying out modification in the software package to outside agencies in May 1990 at a cost of Rs.0.75 lakh.

With the installation of in-house computers, a reduction of time of two/three weeks in billing cycle was anticipated resulting in earlier realisation of telephone revenue. In Bombay, the date of billing was advanced by a week from February 1990, i.e., after a lag of 39 months from the date of commissioning of the in-house computer and 35 months after introduction of the billing system with its help. But in Calcutta, Delhi and Madras there was no reduction in the billing cycle. As such, the benefit of interest of Rs.111 lakhs *per annum* based on 1982-83 revenue figures due to early realisation of revenue has not mostly been attained so far.

With the introduction of in-house computers, speedier realisation of Government dues was anticipated. Proportion of outstanding dues to the total demand was, however, on the rise, generally, in Bombay, Calcutta and Madras during the post-computerisation period vis-a-vis the period prior to it, while in Delhi, there was only a marginal improvement. As such, the benefit of speedier realisation of dues as anticipated on account of in-house computerisation had not been achieved. The details are given below:

		Total demand including opening balance	Total amount outstanding at the close of the year	Percentage of outstandings to total demand
		(Rs. in crores)		
Bombay				
Pre-computerisation	1984-85	180.53	4.97	2.75
	1985-86	200.62	7.94	3.96
	1986-87	255.67	20.76	8.12
Post-computerisation	1987-88	366.03	22.78	6.22
	1988-89	517.61	49.97	9.65
	1989-90	605.90	50.20	8.29

Calcutta				
Pre-computeri)	1984-85	68.99	7.47	10.83
sation)	1985-86	75.38	9.61	12.75
	1986-87	86.57	18.30	21.14
Post-computeri				
sation)	1987-88	133.32	20.52	15.39
)	1988-89	169.27	38.79	22.92
)	1989-90	204.42	44.71	21.87
Delhi				
Pre-computer)	1984-85	132.58	9.77	7.37
isation)	1985-86	149.80	7.48	4.99
	1986-87	180.56	11.49	6.36
Post-computer)	1987-88	274.06	13.83	5.05
isation)	1988-89	386.75	23.57	6.09
)	1989-90	462.75	27.43	5.93
Madras				
Pre-computer)	1984-85	55.72	1.27	2.28
isation)	1985-86	63.81	1.45	2.27
	1986-87	78.28	1.72	2.20
Post-computer)	1987-88	113.92	7.06	6.20
isation)	1988-89	138.95	3.91	2.81
)	1989-90	163.84	6.13	3.74

26.8.3 Directory compilation and printing:- In Calcutta, the anticipated reduction in time of printing and in number of errors, and availability of up-to-date information to subscribers on '197', could not be achieved so far. Further, the work of directory compilation and printing was being done by a private firm on contract basis while technical feasibility and detailed implementation plan for automated directory was in progress.

26.8.4 Store accounting and inventory control:- The target dates for use of in-house computer for store accounting and inventory control were fixed only for Calcutta Telephones. The systems, though developed for the in-house computer, were operated in Calcutta on separate mini-computers and not on in-house computers as originally envisaged. Further, there was no direction from DOT that this application on the in-house computer should be limited to Calcutta only. But it is yet to be introduced in the remaining three metros.

26.8.5 Cable and commercial records:- The Department had anticipated:

(i) that availability of line plant information in the computer data base would speed up the processing of complaints and fault clearance; and

(ii) that by centrally matching the requests of

On-line directory enquiry (197) at Kidwai Bhavan, New Delhi

new connections/shifts, etc., with the cable details through the common data base, it would be possible to reduce the time taken for allotment of the cable pairs and consequent improvement in commercial operations.

This application was targeted to be introduced through the in-house computer during 1986-87.

In Bombay, the application could not be introduced on the in-house computer because of inadequate storage capacity and terminals. This work was being done on other local departmental computers.

In Calcutta, basic information about working connections of all the exchanges was recorded in the main frame computer. However, only basic records for local cables had been recorded, with the whole of junction cables left out of its scope (April 1990). Consequently, expected improvement in processing of complaints and cable and fault clearance was not possible to be achieved.

In Delhi, basic data of telephone lines of all exchanges has been completed and compilation of detailed cable data was in progress (December 1989).

In Madras, the data base has been partially developed as the required data had not been furnished by the field units.

Thus, on account of non-completion of preliminary work, the benefits anticipated from computerisation in the matter of cable and commercial records were yet to accrue (March 1990).

26.8.6 Commercial system:- The work of design and development of the commercial system for working telephone connections was entrusted to CMC Limited in March 1986 at a total cost of Rs.5.05 lakhs. The system was to be developed by August 1987 as a batch mode system, and was to be introduced initially in Delhi. After the system study, the Mahanagar Telephone Nigam Limited (MTNL), Delhi, which was to coordinate the job decided in October 1988 that the system should be developed as on-line system rather than batch mode system. This job was entrusted to CMC Limited in February 1989 for Rs.3 lakhs, and has not been completed (March 1990). Thus, besides incurring an additional expenditure of Rs.3 lakhs, introduction of the system has also been delayed.

26.8.7 On-line directory enquiry:- The agreement with firm 'A' provided that it would develop and implement the directory enquiry software at Bombay within six months of acceptance of the computer by the purchaser. The software was to be extended later to the three other metros.

It was also provided that for directory enquiry service, a response time of maximum five seconds for all except the streetwise enquiries would be guaranteed by the firm at the directly connected terminals on the system.

The on-line directory enquiry system was tried at Bombay from October 1986. The first phase of acceptance testing of the system conducted in January 1987 failed to achieve the desired response time of maximum five seconds. The second phase of testing conducted in March 1987 had also not shown substantial improvement and response time still failed to meet the limit of five seconds. It had also been noted by the Department that though most of the enquiries (more than 95 *per cent*) were having response time within the specified limit, a few were going beyond the specified time due to no specific reason. Further, same type of enquiry which once had high response time had low response time in subsequent trials. But, on the ground that the expectation of having the specified response time for all enquiries was unreasonable, and that under actual working conditions the response time was satisfactory, the on-line directory enquiry system was formally accepted and introduced from September 1988 at Bombay after completion of certain modifications.

No record was made available to Audit on the basis of which the response time was termed as satisfactory, nor was any record available of actual response time after introduction of the system at Bombay. Pending finalisation of acceptable directory enquiry software by Bombay, untested software was being used provisionally. A delay of nearly two years in its final acceptance resulted in similar delay in introducing the modified software at all the metros.

In Calcutta, the group rearrangement and some other sundry miscellaneous jobs were still to be completed (January 1990). Calcutta Telephones also intimated in April 1990 that some difficulty was experienced as the computer memory had been bugged with incorrect/partially incorrect information, at the primary stage. Calcutta Telephones added that response time for any simplest enquiry during busy hours with all batch jobs suspended was about six seconds with all terminals on. There was no other recorded statement about response time for Delhi and Madras.

26.8.8 On-line fault control system:- The proposal of the then Posts and Telegraphs Board had envisaged that the in-house computer would have the inherent capacity to handle the on-line application of fault control system and directory enquiry service, besides other applications. Further, while inviting global tenders, it was clearly mentioned that the system should be capable of meeting load requirements for five years and it should be capable of performing on-line functions. However, within a year of commissioning of the in-house computer and without exceeding the assumed load requirements, the Department noted in August 1987 that the working of fault control system on centralised basis would pose a problem in regard to required number of ports. A Committee on Computerisation formed by the DOT in July 1987 also felt that with the loading of the system with

various applications, the processing speed had considerably slowed down because of insufficiency or main memory provision in the system. The processing capacity had been utilised only to the extent of 55 *per cent* whereas the main memory utilisation was to the extent of 90 *per cent*. The online fault control system was, therefore, decided to be offloaded from the in-house computer and the fault control function was to be put on the mini-computer in each exchange.

In Bombay Telephones, the fault control system was introduced (April 1990) in six out of 81 exchanges using DRS 300 model along with certain accessories costing Rs.62.90 lakhs from firm 'A'.

In Calcutta, 15 DRS 300 systems (exclusive of certain accessories, like printers) costing Rs.47.68 lakhs were purchased during December 1987, July 1988 and December 1988 from the Indian agents of the foreign firm. Nine systems were installed in the nine major exchanges out of 55 exchanges, four were being utilised in miscellaneous works not relating to fault control (March 1990) and two were lying unutilised (March 1990). The Divisional Engineer (Computer) stated in March 1990 that these two systems would be installed shortly. Fault control in respect of three other exchanges was being operated from the main frame computer. In another 15 exchanges, maintenance operation was being done through personal computers. Thus, 27 out of 55 exchanges were having fault control system on the in-house/DRS 300/personal computers. Fault control operation in the remaining 28 telephone exchanges and the telex exchange had remained outside the computer operation though DOT had decided to introduce computerised fault control system in all major exchanges by December 1988. It was also noticed by Audit in March 1990 that of the nine DRS 300 systems installed for fault control operations, six were working, one was working partially, one system installed in '77' exchange was not commissioned reportedly on account of opposition from the staff union, and the system installed in '75' exchange was being utilised for operational purposes as well as fault control operation.

In Delhi, fault control in three exchanges was being attended to through the in-house computer, in one by using DRS 300 system, and in two more exchanges with the help of private agencies operating on hardware purchased from them by MTNL at a cost of Rs.69.56 lakhs. Further, the MTNL, Delhi had also placed a purchase order in August 1989 on the Indian agents of firm 'A' for supply of five DRS 300 systems at a cost of Rs.35.50 lakhs for installation in five more exchanges. Thus, only six of the planned 18 exchanges have been covered so far with computerised fault control operation.

In Madras Telephones, 15 mini-computers purchased from the Indian agents of firm 'A' to handle the fault control

application at a cost of Rs.48.39 lakhs were being operated from March 1989.

Thus, the configuration of the in-house computer installed was not sufficient to cater to the envisaged requirements of on-line fault control. Even after off-loading this application from the in-house computer and resorting to the purchase of a number of mini-computers, the Department had failed to implement the on-line fault control system completely and the benefits projected remained to be achieved even after incurring an additional expenditure of Rs. 264.03 lakhs. Further, in the absence of a full fledged cable data base, benefits from application of this system would be limited, till such data are fully recorded.

26.9 Upgradation

The Department had procured the in-house computer (ICL 2958) for four metros, keeping in view, *inter alia*, the following two main parameters:

(a) the system should be capable of handling the load for five years with all the projected applications, and

(b) the system should be capable of performing certain on-line functions.

At the time of inviting and finalising global tenders, it was emphasised that there should not be any necessity for any complete replacement of the equipment at least upto 1995 and there should be a performance guarantee for response time for better than five seconds for on-line directory enquiry even when 200 terminals are attached to each centre.

The Committee on Computerisation constituted by the DOT in July 1987 held that with the loading of the systems with various applications, the processing speed had considerably slowed down because of insufficiency of main memory provisions in the system. To relieve the load on the in-house computer, it was decided to off-load fault control system, which was another on-line application.

The MTNL, Delhi observed in August 1987:

(a) that the present system (ICL 2958) was not totally a fail safe system whereas; for on-line application system like directory enquiry, there should be a fail safe system. As such, the present system would have to be upgraded to a superdual system, called ICL 2966.

(b) that the Central Processing Unit (CPU) capacity utilisation presently was of the order of 35 to 45 *per cent*, but at the same time it was not feasible to add more on-line terminals and applications because of limitation imposed by the main memory.

It was observed that even though the fault control application was off-loaded from the in-house computer(ICL 2958), its hardware configuration was not sufficient to cater to the requirement of other applications made operative. This was despite the fact that the anticipated

load(working connections) had not been reached so far (March 1990).

With a view to overcoming the problem faced with reference to system speed, the ICL 2958 system was upgraded in Bombay (October 1989), Calcutta (July 1989) and Delhi (July 1988) to ICL 2966 with superdual configuration for which the Department had to incur a total expenditure of Rs.189.81 lakhs (Calcutta Rs.45.43 lakhs, Bombay Rs.69.17 lakhs and Delhi Rs.75.21 lakhs). In Madras, a proposal was mooted in January 1988 to enhance the main memory as the system performance had degraded. Decision on the proposal has not been taken (May 1990).

In fact, the ICL 2966 was available in the market at a cost of Rs.65.86 lakhs against the cost of Rs.40.25 lakhs of ICL 2958 in 1985 itself. Outright purchase of ICL 2966 in 1985 would have entailed an additional expenditure of Rs.25.61 lakhs for one metro (Rs.76.83 lakhs for three metros as against Rs.189.81 lakhs spent on upgradation). Unrealistic selection of the computer model resulted in an extra expenditure of Rs. 112.98 lakhs.

Besides, the Department had incurred expenditure of Rs.264.03 lakhs on purchase of mini-computers and other systems to take care, inter alia, of the off-loaded online fault control application.

Thus, due to injudicious selection of the computer system (ICL 2958) in 1985 in preference to a better alternative (ICL 2966) then available, the Department had incurred an avoidable expenditure of Rs. 377.01 lakhs.

26.10 Regional Billing Centre

The Department entered into a contract in July 1982 with a foreign firm'B' for establishing a Regional Billing Centre (RBC) at Madras as a prelude to establishment of E-10-B exchanges in the Southern Region. The project estimate was sanctioned in October 1982 by the General Manager, Madras Telephones for Rs. 55.18 lakhs. A revised sanction was issued in June 1983 for Rs.73.58 lakhs. It was indicated in the estimate that the Centre would initially take up the billing of E-10-B exchanges in Madras and other places and that on the installation of the in-house computer at Madras, the Centre would be shifted to some other telephone district to serve the billing needs of E-10-B exchanges in the Southern Region excluding Madras Telephones.

The equipment for the Billing Centre costing Rs.38 lakhs was received between March and December 1984. However, its installation was not taken up immediately as there was no E-10-B exchange in operation in the concerned area. The first E-10-B exchange in the area was commissioned in Madras in March 1986. The in-house computer was installed in August 1986 and that computer took over the billing operations of all the exchanges in Madras Telephones from September 1986. With

this, there was no need for the equipment in Madras Telephones for billing purposes. It was observed that the Bangalore Telephone District had requested the DOT in March 1986 for diversion of the equipment from Madras to Bangalore for billing the E-10-B exchanges proposed to be commissioned at Bangalore. Installation of the equipment was, however, made at Madras in September 1987 at a total cost of Rs.87.95 lakhs and was not used. A part of the equipment was proposed to be utilised for Operational Maintenance Centre (OMC) of Anna Nagar exchange, Madras. However, due to delay in supply of equipment for that exchange, the Department now proposes to utilise the equipment for Regional Maintenance Centre, Madras. Thus, even after six years of receipt of costly imported equipment, the Department has been unable to put it to alternative use.

The foregoing observations were communicated to the Ministry in October 1990; reply has not been received(February 1991).

27. Jorhat - Kohima - Imphal digital microwave scheme

27.1 Introduction

In March 1984, the Government approved a proposal for installation of a 7 Giga Hertz (GHz), 480 channels, 34 Megabits per second (M b/s), digital microwave system on Jorhat - Dimapur - Kohima - Imphal route at an estimated cost of Rs.361.97 lakhs. The digital system was to replace the existing narrowband 7GHz, 300 channels, analogue microwave system which was nearing its optimum capacity due to industrial, economic and political developments in the area and also to meet the anticipated additional traffic requirements between the above stations and beyond having considerable community of interest. The project on its completion was expected to earn a net revenue of Rs.155.69 lakhs *per annum*.

The project estimate was sanctioned in July 1985 for Rs.361.97 lakhs, and was expected to be commissioned by 1987-88 keeping in view the likely availability of material and working conditions. Two of the three sections, viz., Dimapur - Kohima and Kohima - Imphal, were commissioned in March 1989 and though the acceptance testing of the third section, Jorhat - Dimapur, was completed in March 1990, the section was yet to be commissioned (May 1990).

The total expenditure on the project till March 1990 was Rs. 622.33 lakhs. The project estimate revised in November 1989 for Rs.677.08 lakhs has not been sanctioned (May 1990).

27.2 Scope of Audit

A review covering planning and execution of the project was conducted by Audit during February - May 1990.

27.3 Organisational set up

The project was executed by the Director of Telecommunications, Microwave Projects Task Force, Jorhat under the overall supervision of the

Chief General Manager (CGM), Task Force, North East Telecommunications Region, Guwahati.

27.4 Highlights

The review brings out, *inter-alia*,

- A re-survey of the entire route was necessitated during January - March 1988 due to non-provision of towers for Dimapur and Sarupathar in the project estimate as suggested in the original survey report of July 1981. The re-survey, besides confirming the necessity of the towers as suggested earlier, brought out the need for certain additional works/ equipment indicating that the original project estimate had not been properly prepared.

- Despite availability of existing cable, cable costing Rs.14.62 lakhs was procured, and was lying unutilised.

- Due to lack of proper planning and monitoring, imported equipment costing Rs.113.84 lakhs received in August 1986 remained unutilised for over 18 months; its installation was commenced in March 1988 only.

- While Rs.18.30 lakhs were spent on procuring materials for a 100 metre heavy weight tower at Sarupathar and the needed foundation therefor, the erection of tower was held in abeyance since the existing 60 metre tower having been considered adequate, rendering the above expenditure unfruitful.

- There had been a cost overrun of 72 per cent.

- The project was targeted to be commissioned by 1987-88, but only two of the three sections were commissioned till March 1990. Even after a lapse of more than six years since the project was conceived and after investment of Rs.622.33 lakhs made on it, the objective of providing better communication facilities in the North Eastern region, and linking district headquarters there, had not been achieved fully.

27.5 Deficiency in project estimates

The project estimate was prepared on the basis of the survey conducted in July 1981 which had suggested making use, as far as possible, of the infrastructure of the existing narrowband analogue microwave system, viz., buildings, microwave towers, power plants, etc. The survey report had indicated requirement for a 100 metre heavy weight tower at Sarupathar and a 50 metre tower at Dimapur. But these were not included in the project estimate sanctioned in July 1985. There were no recorded reasons for their exclusion. The discrepancy was pointed out to the Directorate

by the project organisation in September 1985. But no action was taken in this regard for nearly two years. In August 1987, the issue was brought up again and after a visit to different repeater stations, in December 1987, by a team of officers, a re-survey was ordered. The entire route was re-surveyed during January - March 1988. The re-survey report submitted in March 1988 confirmed the requirement of heavy weight towers of 100 and 50 (subsequently changed to 60) metre height respectively at Sarupathar and Dimapur. The re-survey also brought out certain other modifications, like, installation of ultra high frequency (UHF) schemes for temporary re-routing of traffic, provision and adjustment of power plants and provision of automatic dehydrators.

Though provision was made for the following items in the survey report, yet they were not provided for in the estimate:

(i) Erection of 100 metre heavy weight tower at Sarupathar;

(ii) Erection of 50 metre heavy weight tower at Dimapur;

(iii) Installation of UHF scheme for temporary re-routing of traffic; and

(iv) Power plants and automatic dehydrators.

Though its estimate was sanctioned in July 1985 and the project was targeted for commissioning by 1987-88, there had been no planning on the part of the project executing authorities for effective implementation/execution of the project till an action plan was formulated in January 1988

27.6 Unfruitful expenditure in procuring tower material and laying foundation

After re-survey of the route during January-March 1988, when it was confirmed that a 100 metre tower at Sarupathar and a 50 metre (subsequently changed to 60 metre) tower at Dimapur would be necessary in place of the existing towers in those places, order for their supply was placed on Telecommunications Factory, Jabalpur in March 1988. The supply of tower materials for both the places was completed by November 1989. While the tower foundation work at Dimapur was commenced by the Civil Engineering Wing of the Department in March 1989 and completed in June 1989, that at Sarupathar was commenced in February 1989 and completed in February 1990. The tower erection at Dimapur was completed in September 1989 but the erection of the tower at Sarupathar was kept in abeyance (May 1990).

Thus, while the work relating to tower foundation and erection of the 60 metre tower at Dimapur was completed in September 1989, the section between Dimapur and Imphal was commissioned earlier, in March 1989, and that though the 100 metre tower at Sarupathar was yet to be erected (May 1990), the section between Jorhat and Dimapur was acceptance tested satisfactorily in March 1990 and was considered to be fit

for commissioning in view of the critical test results meeting the standards. It was, thus, apparent that for commissioning the Dimapur-Kohima-Imphal section the existing 40 metre tower at Dimapur was adequate and that for acceptance testing of the Jorhat-Dimapur section, the existing 60 metre tower at Sarupathar served the purpose.

The Director, Microwave projects, Task Force, Jorhat stated, in May 1990, that the 40 metre tower at Dimapur was working towards Imphal side and that as the system was tried and satisfied the minimum required 'trans and receive' level at Sarupathar on existing tower, the work of erection of 100 metre heavy weight tower has been kept in abeyance. It is, thus, an unfruitful expenditure of Rs.18.30 lakhs came to be incurred towards tower material (Rs.11.00 lakhs) and the tower foundation (Rs7.30 lakhs) at Sarupathar.

27.7 Procurement of cable without need

The project estimate provided for procurement of 5.5 kms of four core, large tube, coaxial cable for end link at Jorhat. In December 1986, the project organisation decided to make use of, instead, the four core, large tube, coaxial cable which had been already laid three years ago. This was intimated to the concerned planning wing of the Directorate in the same month. As this information was not passed on either by the project organisation or by the planning wing to the material management stores wing of the Directorate, orders were placed by the latter wing on Hindustan Cables Limited (HCL) between December 1987 and April 1988 for supply of 7.2 kms of cable. The cable costing Rs.14.62 lakhs was supplied in November 1989, and was lying without need at Jorhat.

27.8 Non-utilisation of equipment for over 18 months

Order for supply of the required digital microwave equipment was placed on a Japanese firm in October 1985. The equipment costing Rs.113.84 lakhs reached Calcutta port in August 1986 and was delivered to the Director of Supplies and Disposals (Shipping) in the same month. According to the General Manager, Telecommunications Projects, Eastern Region, Calcutta, the consignments were lying in the open space of the godown of the Assistant Director (Shipping), Calcutta till January 1987 when these were brought to Jorhat. Besides, one item of digital microwave equipment, spare at Bangalore, and two terminals of 140 Mb/s digital coaxial system with other accessories from the Telecommunication Research Centre Project of Lucknow- Kanpur section were diverted in June and September 1986 respectively for use in the Jorhat- Imphal project under orders of the Directorate.

While the system was to be commissioned by March 1988, installation of the equipment commenced in March 1988 and was completed in December 1989. Delay in installation of equipment was due to defective

planning necessitating revision of scheme for harmonisation of power plants at different repeaters and layout plan for multiplex station at Jorhat which was approved in August 1988. Thus, the imported equipment remained unutilised for over 18 months, due to lack of proper planning and monitoring, both at Circles and Directorate level.

27.9 Cost overrun

The total expenditure incurred on the project was Rs.622.33 lakhs upto March 1990 as against the original sanctioned cost of Rs.361.97 lakhs indicating an overall cost overrun of 72 *per cent*. Componentwise cost overrun, however, was Direction and Execution (72 *per cent*), Apparatus and Plant(86 *per cent*) and Masts and Aerials (449 *per cent*). This does not include the cost of 7.2 kms of cables (Rs.14.62 lakhs) which was yet to be accounted for (August 1990).

The main reasons for the cost overrun were (i) increase in cost of apparatus and plant (Rs.233.88 lakhs); (ii) non-provision for towers at Dimapur and Sarupathar in the project estimate (Rs.39.98 lakhs); and (iii) increased pay and allowances to staff due to prolongation of the period of execution of the project (Rs.17.23 lakhs).

27.10 Evaluation of the project

The system was targeted to be commissioned by 1987-88, but even after a delay of more than two years, only two of the three sections were commissioned till March 1990.

The project organisation attributed the delay mainly to frequent transfers of project executing staff, delay in placing of order for antennae fixtures and platforms due to non-availability of revised survey report and posting of personnel inexperienced in digital microwave system.

The main objective of the project was to meet the additional traffic demand between stations Jorhat, Dimapur,Kohima and Imphal and beyond and the requirement of trunk circuits arising out of the commissioning of UHF schemes taken up by the Department linking different district headquarters in the North Eastern region and installation of digital trunk automatic exchange (TAX) at Jorhat.

It was observed in Audit that of the seven UHF schemes taken up by the Department for linking different district headquarters of the North Eastern region, only three could be completed till March 1990. Further, the optimum utilisation of the digital microwave scheme between Jorhat and Imphal was mainly dependent on setting up of the digital TAX at Jorhat, where the channels could be terminated for further inter-connecting circuits between Jorhat TAX and the exchanges to be parented to it. But the installation of digital TAX at Jorhat, which was targeted for commissioning in June 1989, was yet to be completed (May 1990). Consequently, even after commissioning of the

Jorhat-Dimapur section of the digital microwave scheme, no circuit could be terminated for Jorhat till the commissioning of the digital TAX at Jorhat.

Thus, after a lapse of more than six years since the digital microwave project was conceived and investment of a sum of Rs.622.33 lakhs made on it till March 1990, the objective of providing better communication facilities to the North Eastern region, and linking different district headquarters there, had not been achieved fully.

These observations were referred to the Ministry in August 1990; reply has not been received (February 1991).

28. Ratlam - Mandsaur coaxial cable scheme

28.1 Introduction

In May 1978, the Government approved a proposal for installation of 2.6 Mega Hertz (MHz) coaxial cable system between Ratlam and Mandsaur (93 Kms) at an estimated cost of Rs. 115.48 lakhs. The main objectives of the scheme were (i) to provide stable media for inter-connecting district headquarters Ratlam and Mandsaur between which there was stated to be large community of interest, (ii) to divert traffic originating from Mandsaur and north of Mandsaur to Jaipur and Bombay through Ratlam, and (iii) to connect Mandsaur with Bhopal via microwave link through Ratlam.

The scheme was commissioned in phases, Ratlam - Jaora section (39 Kms) in July 1985 and Jaora - Mandsaur section (54 Kms) in February 1986. The total expenditure booked on the project till the end of March 1990 was Rs.262.28 lakhs.

28.2 Scope of Audit

A review of the scheme was conducted by Audit between August 1989 and February 1990.

28.3 Organisational set up

The scheme was executed by the Directors, Coaxial Cable Projects, Bombay and Bhopal under the overall supervision of the Chief General Manager, Telecommunication Projects, Bombay.

28.4 Highlights

The review brings out, *inter alia*,

-Delay in construction of coaxial buildings due to long time taken for preparation of preliminary drawings, estimates and structural drawings. Together with failure to initiate timely action for procurement of cable and certain items of equipment, commissioning of the scheme got delayed by about four years to February 1986, instead of 1981-82.

-Delays took place almost at all the stages due to inadequate planning and coordination.

- Against the original sanctioned cost of Rs.127.50 lakhs, the expenditure booked till March 1990 was Rs.262.28

lakhs and expected to go up to Rs.291.43 lakhs, two and a quarter times the original sanction.

-The scheme was expected to earn a net revenue of Rs.13.37 lakhs every year on the basis of traffic projections of 1980 and the telecom tariff then in force, and a net revenue of Rs.78.93 lakhs per annum based on 1985 traffic projections and tariff. The scheme has on the contrary run into losses since commissioning in February 1986 till 1988-89 (cumulative deficit Rs.88.51 lakhs) while in 1989-90 it made a marginal net revenue of Rs.0.33 lakh. This was a result of highly unrealistic traffic projections having been made while seeking sanction to the scheme; out of 600 channels, only 162 were being utilised.

28.5 Sanction of project estimate

The project estimate was sanctioned in March 1980 for Rs.127.50 lakhs, nearly two years after the approval of the scheme, though the detailed survey was conducted in May 1978 and report submitted to the Directorate in June 1978. On the basis of traffic projections for the year 1980, the scheme was expected to earn a revenue of Rs.13.37 lakhs *per annum* indicating a return of 10.5 *per cent* on the capital invested. No specific target was fixed for the physical completion of various stages of the scheme as a whole. However, the phasing of expenditure in the project estimate indicated completion and commissioning of the scheme by 1981-82.

A revised project estimate was sanctioned in January 1989 for Rs.291.43 lakhs, nearly three years after the scheme was commissioned. As per the revised project estimate, the scheme,on the basis of enhanced traffic projections and tariff rates of 1985, was expected to yield a revenue of Rs.78.93 lakhs *per annum* indicating a return of 27 *per cent* on the capital invested.

28.6 Acquisition of land and construction of buildings

Accommodation for coaxial station at Ratlam and Mandsaur was to be provided by construction on/ extension of the existing buildings. At Jaora, land measuring 6677 sq.metres was acquired at a cost of Rs.0.27 lakh in February 1982 for construction of a building for the coaxial station. As per project estimate sanctioned in March 1980, the coaxial buildings were expected to be completed by 1981-82. They were, however, completed between April 1984 and March 1985 as given below:

	Date of Sanction	Award of work	Stipulated completion	Actual completion	Delay in completion (in months)
Ratlam	February 1981	February 1982	October 1982	April 1984	18
Jaora	January 1983	May 1983	February 1984	May 1984	3
Mandsaur	July 1982	March 1983	March 1984	March 1985	12

The delays occurred despite the fact that acquisition of land was not involved at Ratlam and Mandsaur and that land had been acquired at Jaora by February 1982. Time taken for issue of administrative approval and expenditure sanction (AA and ES) after sanction of the project estimate was abnormally long, ranging from 11 to 34 months, due mainly to delay in finalisation of preliminary drawings and preparation of preliminary estimates by the Civil Wing of the Department. Similarly, even after the issue of AA and ES, four to twelve months were taken to award the works, while delay of three to eighteen months over the scheduled date occurred in completing them reportedly on account of delay in issue of structural drawings, shortage of cement, non-completion of electrical works, and extra items of work.

The delays in completion of the coaxial buildings consequently delayed installation of equipment, laying of tail end cables for connecting the coaxial stations with the local exchanges and commissioning of the link at all the three places.

The Ministry stated, in January 1991, that for eliminating delay in the construction of buildings for transmission projects, a proposal to create a civil division under the control of the Chief General Manager, Project, is under consideration.

28.7 Procurement and laying of cable

Order for purchase of about 94 Kms of, four core, small tube, coaxial cable with jointing and terminating material and tool kits was placed on Hindustan Cables Limited (HCL) in September 1980 to be delivered in July 1981 even though the approval of the scheme in May 1978 by the Government carried with it permission for placing of orders for cable and equipment in advance and the detailed survey of the route had been completed in May/June 1978. Thus, by placing the order for the cable in September 1980, the Department had contributed to the delay by more than two years right at the initial stage itself.

The supply of cable commenced in January 1981, was completed in September 1981.

The cable laying work was commenced by the Department in November 1981 only i.e., after receipt of entire length of cable. The cable laying work was completed in June 1983 except for 200 metres of cable which was laid in May 1984 after completion of the building at Jaora. The cable jointing work was completed in May 1984 and the acceptance testing by July 1984.

Although it was indicated in the proposal that the entire cable laying work would be completed within one year, the Department took 34 months to complete the work after receipt of the cable. The delay was attributed by the Ministry to rocky soil requiring blasting and laying of cable along railway bridge.

But these factors were already in the knowledge of the Department in June 1978 when the detailed survey was completed.

28.8 Equipment

Orders for supply of 2.6 MHz line and multiplexing equipment for the route were placed on Indian Telephone Industries (ITI) in August 1979 for being supplied by January 1980. After placement of the orders, it was felt that the requirement of power plant at Jaora and battery sets for all the stations could be met by transfer from other stations and the order for these items placed on ITI was, therefore, cancelled in May 1980. And, in June 1983, the Department realised that the capacity of the power plant and batteries proposed to be utilised by transfer would not be adequate. The Directorate thereafter advised the General Manager, Telecom Stores Calcutta, (GMTS), in August 1983, to supply the required items. The cancellation of the timely placed order on ITI was, thus, made without assessing properly the requirement of the stores and their availability at other stations.

Supply of 50 *per cent* of line and multiplexing equipment was completed by September 1983. The installation work could not be taken up immediately due to non-completion of the buildings at three places. Installation of equipment in Ratlam-Jaora section was taken up in March 1984. Its completion was, however, delayed due to non-supply of power plant for Jaora station and battery sets for all the stations by GMTS, Calcutta and certain essential items of equipment by ITI. Anticipating further delay, the Directorate was requested, in May 1984, to arrange diversion of the requisite items. The batteries were diverted from Hoshangabad, Bilaspur and Jabalpur between October 1984 and May 1985 and the power plant for Jaora was procured and supplied by GMTS, Calcutta in November 1984. The installation work between Ratlam and Jaora was completed in December 1984. The acceptance testing was also completed in January 1985, but the proving-in, which was to follow, could not be commenced as the tail end cable connecting the coaxial station to Ratlam exchange had not been laid till then although the matter had been taken up by the project circle with the higher autho-

rities as early as in February 1983. The laying of tail end cable was, however, completed in March 1985 by transfer of cable from other works and the proving-in was commenced in April 1985. The Ratlam-Jaora section was commissioned in July 1985.

The installation of equipment at Mandsaur end was delayed due to non-completion of building. The installation work of Jaora- Mandsaur section was taken up after completion of building at Mandsaur in March 1985. The acceptance testing was completed in August 1985, but the proving-in which was to follow thereafter was commenced in November 1985 after delay of nearly three months. The section was ultimately commissioned in February 1986.

The Ministry stated, in January 1991, that the indenting procedure for supply of power plant and batteries, etc., had now been streamlined which would eliminate delay to a considerable extent.

The Ministry did not give reasons for the delay in procurement and laying of tail end cable.

28.9 Cost and time overrun

As against the original sanctioned estimate of Rs.127.50 lakhs, the expenditure booked on the project, till the end of March 1990, was Rs.262.28 lakhs, an overall cost overrun of 106 *per cent* over the original estimate. The bulk of the excess was under apparatus and plants (Rs.97.02 lakhs) and buildings and electric installation (Rs.25.41 lakhs). Going by the revised project estimate sanctioned in January 1989 for Rs.291.43 lakhs, another Rs.29.15 lakhs can be expected to be booked towards expenditure involving further cost overrun.

The scheme was expected to be completed and commissioned by the end of 1981-82, but was commissioned in full in February 1986 involving a time overrun of four years.

The Ministry stated, in January 1991, that instructions had been issued to all Chief General Managers, Projects, to adopt realistic programme evaluation and review technique (PERT) chart and target dates of commissioning

28.10 Under-utilisation of the system

The 2.6 MHz coaxial system having a total capacity of 600 channels was commissioned in full in February 1986. It was stated in the proposals that the loading of the system would be done in phases, lasting over a year after the proving-in was completed.

But more than four years after commissioning of the entire system, the total number of channels utilised in March 1990 was 162 only which was 27 *per cent* of the capacity. The system was, thus, being grossly under-utilised.

The Ministry stated, in January 1991, that the system will be loaded within 8-10 years.

However, the fact remains that at the proposal stage the Ministry had indicated that the loading would be done in phases lasting over one year after the commissioning of the system.

28.11 Financial status of the project

While computing the revenue expected to be earned by the project the Department had taken into account the anticipated manual trunk traffic alone. The subscriber trunk dialling (STD) traffic was not taken into account. It was, however, observed in Audit that the projections made by the Department in regard to the expected revenue yield had under gone a conspicuous change from time to time as under :

Estimate	As per proposal approved by Government in May 1978	As per original project estimate sanctioned in March 1980	As per revised project estimate sanctioned in January 1989
		(Rs. in lakhs)	
Gross revenue	31.17	31.17	127.93
Annual revenue expenditure	16.45	17.80	49.00
Net Revenue	14.72	13.37	78.93
Percentage return	12.74	10.50	27.08

Thus, as per the revised project estimate sanctioned in January 1989, on the basis of the anticipated manual trunk traffic alone, the project was expected to yield a net revenue of Rs.78.93 lakhs *per annum*. This, however, proved to be an unrealistic expectation as going by the traffic actually handled by the system, including even the STD traffic, it was observed that far from earning revenue, the system was mostly running in loss since its commissioning in 1985-86 as under:

	Gross revenue receipts	Revenue expenditure	Deficit(-)/ Surplus(+)
		(Rs. in lakhs)	
1985-86 (July 1985 onwards)	2.38	36.75	(-)34.37
1986-87	13.83	49.00	(-)35.17
1987-88	36.88	49.00	(-)12.12
1988-89	42.15	49.00	(-) 6.85
1989-90	49.33	49.00	(+) 0.33(Profit)

Thus, the cumulative deficit incurred by the system up to March 1989 was Rs.88.51 lakhs. It was only during 1989-90 that the system earned a marginal net revenue of Rs.0.33 lakh as against the anticipated annual net revenue of Rs.78.93 lakhs.

Significantly, even while sanctioning the revised project estimate in January 1989, the Department had not realised that till then the system was running in a loss and worked out the project viability on the basis of unrealistic traffic projections.

The Ministry stated, in January 1991, that transmission projects are planned for a long term of 8-10 years, the revenue earned during the initial one or two years may not be the real indicator of the revenue earning potential of any long transmission media and that it would take four to five years for the system to get stabilized.

However, the fact remains that it is already more than four years that the project was commissioned and that the revenue earned by the system even during 1989-90 was by far, off the projections made.

28.12 Monitoring mechanism

Monthly and quarterly progress reports were being prepared and submitted to the circle office and to the Directorate. Periodical coordination committee meetings were also being held from time to time. But, PERT chart, which is essential for effective monitoring and ensuring completion of the project within the set time frame, was not available with the project organisation. In the absence of a carefully planned programme for commencement and completion of each component and interrelated activity, the progress reports and coordination committee meetings proved to be ineffective as all the major component activities of the project got delayed.

It was further observed in Audit that the delays took place almost at all the stages due to inadequate planning and coordination amongst various wings of the Department. Had the Department taken proper and timely action in regard to construction of buildings, procurement and laying of coaxial cable along the route and tail end cable connecting the coaxial stations to local exchanges, procurement and installation of equipment etc., the overall delay in commissioning the scheme could have been minimised to a large extent, if not eliminated altogether.

The Ministry stated, in January 1991, that evaluation and review of the various schemes under execution is being done more vigorously now at all levels and coordination meetings held from time to time for expeditious completion of the projects.

29. Bellary-Hospet-Koppal coaxial cable scheme

29.1 Introduction

In November 1979, Government approved a proposal to install a 2.6 Mega Hertz (MHz), 600 channels capabi-

lity, coaxial cable system on the Bellary - Hospet - Koppal route (97 Kms) at an estimated cost of Rs.126.10 lakhs. The main objective of the scheme was to interlink Bellary, Hospet and Koppal which were stated to be having considerable community of interest and to provide subscriber trunk dialling facility to Hospet and Koppal. According to the Department's memorandum of November 1979 for the Expenditure Finance Committee, the project was expected to be commissioned in 1982-83, on the basis of indication of the availability of cable from the Hindustan Cables Limited (HCL) and accessories and equipment from the Indian Telephone Industries (ITI).

The project estimate for Rs.156.23 lakhs was sanctioned in May 1981, one and half years after approval of the project. The system was placed under proving-in in January - February 1986 and was finally made over to the maintenance organisation in September 1986. The total expenditure incurred on the project till the end of March 1990 was Rs.328.47 lakhs. The project estimate revised in January 1989 for Rs.349.33 lakhs was yet to be sanctioned (April 1990).

29.2 Scope of Audit

A review covering planning and execution of the project and operation of the system was conducted by Audit in August-October 1989.

29.3 Organisational set up

The project was executed by the Director of Telecommunications, Coaxial Cable Projects, Hyderabad, under the overall supervision of the General Manager, Telecommunication Projects, Madras (GM).

29.4 Highlights

The review brings out, *inter alia*,

-The location of coaxial stations away from the local exchanges necessitated additional length coaxial cable for which a supplementary order was placed in December 1982, two years after placing the main order. The supplementary order materialised in April 1985.

- Construction of buildings for the coaxial stations took nearly three years to be completed, delaying installation of the equipment. Cable worth Rs.54.07 lakhs lay buried without use for over two years as neither of the coaxial station buildings was ready nor was the equipment installed and system commissioned.

- Frequent amendments and changes by the Department in specifications of the equipment added to the delay in supply of equipment by the Indian Telephone Industries.

- Even after four years of commissioning, the system was being grossly under-utilised. Against the planned provision of 27 groups (324 channels), 19 groups comprising 228 channels only were pro-

vided, but their utilisation (107 channels) had not touched even half of their capacity.

- Due to lack of proper planning and co-ordination amongst the various wings of the Department, the project, expected to be commissioned by March 1983, was actually commissioned after a delay of about three years. There had also been a cost overrun of 110 per cent, from Rs.156.23 lakhs to Rs.328.47 lakhs.

- As per sanctioned project estimate, the system was expected to earn annually a net revenue of Rs.44.73 lakhs. The revised project estimate, yet to be sanctioned, indicated a net revenue of Rs.40.03 lakhs per annum, giving a return of 11.46 per cent over the investment. However, since its commissioning in 1986, the system had been incurring loss aggregating to Rs.142.79 lakhs over the last four years.

29.5 Land and buildings

29.5.1 The survey on the route carried out in early 1980 had indicated that the land behind the existing exchange at Hospet under acquisition and the vacant land within the telephone exchange compound at Koppal could be made use of for construction of buildings for this project. However, the GM decided in March 1980 to acquire land at other places in Hospet and Koppal. The land acquisition proceedings were initiated in September 1980 and land was purchased/acquired in March 1982 (Hospet) and May 1982 (Koppal) at a cost of Rs.1.33 lakhs and Rs.1.01 lakhs. The land so purchased/acquired at Hospet and Koppal was at a distance of 1.30 and 1.88 Kms away from the telephone exchanges at the respective stations.

The Ministry stated in February 1991 that though the survey report had indicated that land at Hospet and Koppal was available with the Territorial Circle, the Circle was in no position to spare it. In reply to an audit enquiry, the Chief General Manager, Territorial Circle, Bangalore, had, however, stated in August 1989 that neither was there any proposal by nor was any communication received from the project authorities seeking permission for construction of these buildings on such land.

29.5.2 Station Bellary was having a building as a 2.6 MHz coaxial cable system already existed between Guntakal and Bellary. For Hospet and Koppal, while land for the purpose had been acquired in March and May 1982, administrative approval and expenditure sanction (AAES) for both the buildings was accorded in November 1982. The construction work was awarded to contractors by the civil wing of the Department only in July-August 1983 with the stipulated dates for completion as August 1984 for Koppal and October 1984 for Hospet. While the building at Hospet was completed in December 1984, the building at Koppal was made available in March

1985 for installing the equipment. Thus after land was acquired the Department took nearly three years to complete the two buildings. The main delays as observed in Audit were (i) four to six months taken for preparation of preliminary estimates after purchase of land in March/May 1982, (ii) five months taken for calling the tenders for construction after the accord of AAES in November 1982 and (iii) two to seven months in execution of construction work.

The delay in completion of buildings delayed installation of the equipment and commissioning of the system for over one year.

The Ministry stated, in February 1991, that a proposal to create a Civil Division directly under Chief General Manager, Project to minimise such delays was under consideration.

29.6 Cable laid, but without use

Order for supply of 99.71 Kms. of four core, small tube, coaxial cable with accessories was placed on HCL in January 1981 with the stipulated date of supply as December 1981. The entire supply, including accessories, was completed by September 1982. Though GM had decided in March 1980 to acquire land for locating coaxial buildings away from the existing exchanges, order for additional one kilometre of cable needed was not included in the above order of January 1981, for which a supplementary order was placed in December 1982 which materialised only in April 1985.

As per the programme evaluation and review technique (PERT) chart, the cable laying work was to be commenced in January 1982 and completed in all respects by May 1982. But the cable laying work was commenced in April 1982 and completed, mostly, in November 1983, followed by cable jointing work in May 1984, cable termination work in July 1984 and acceptance testing of cable in September 1984.

Thus, as compared to the PERT chart, there had been a delay of over two years in the completion of the cable work. Even then, cable worth Rs. 54.07 lakhs lay buried without use till February 1986 as neither of the buildings, at Hospet and Koppal, was ready, nor was the equipment installed and the system commissioned.

29.7 Equipment

29.7.1 Order for supply of line and multiplexing (MUX) equipment and power plant was placed on ITI in May 1980 with the stipulated delivery as 1980-81. This order was followed by three amendments, in September, November 1980 and April 1981.

Besides this, two additional orders were placed - one in April 1982 for certain items of equipment which were omitted to be included in the original order and the other in December 1982 for additional repeater equipment found necessary subsequently.

The supply was commenced in February 1983, and, except for some items, like group translating equipment (GTE) bays (CP 5 version), over 90 *per cent* of supply was received by March 1985.

Meanwhile, in February 1985, the Department changed the specification of GTE bays from CP 5 to CP 7 version. This, consequently, necessitated change of CP 5 version GTE groups, already supplied in March 1984, to CP 7 version so as to correspond to the bays. While the CP 7 version GTE bays were received in May 1985, the needed GTE groups (CP 7) were received in February and June 1986.

Thus, frequent amendments and changes in specifications by the Department added to the delay in supply of equipment by ITI.

29.7.2 Although more than 50 *per cent* of the equipment was received by March 1984, its installation could not be taken up due to non-availability of buildings which were completed, after delay, only in December 1984 - March 1985. The installation of power plant, battery, etc., was taken up in October 1984 when a portion of the coaxial building was taken over. The installation of line and MUX equipment was commenced in February 1985 and completed in June 1985 except installation of GTE equipment as it had not been supplied by ITI till then. Consequently, four sets of GTE groups were diverted from Madras in July 1985 and installed in August-October 1985. The through test and the acceptance testing of the system as such was completed in October 1985 as against the target of February 1983.

The delay could have been avoided, or minimised, by proper coordination in getting the building work completed by the civil wing of the Department and by taking proper and timely action for getting the equipment from ITI which is under the Department's administrative control.

29.8 Procurement/laying of tail end cable

The coaxial stations at Hospet and Koppal were contemplated to be located in the vicinity of the local exchange, but, subsequently, land for coaxial buildings was acquired 1.3 Kms and 1.88 Kms away from the local exchanges. This necessitated laying of substantial length of tail end voice frequency cable (VF) of 100/10 and 200/10 pairs for connecting Hospet and Koppal coaxial stations with local exchanges. As a result, though all the work relating to 2.6 MHz coaxial system between Bellary and Koppal was completed and the system acceptance tested in October 1985, it could not be placed under proving-in which was to follow thereafter, due to non-availability/non-laying of tail end cable the work on which was to be carried out by the Territorial Circle.

The laying of tail end cable work at Hospet was ultimately completed in December 1985 and that at Koppal in January 1986. The proving-in of the Bellary-Hospet section commenced in January 1986 and

that of Hospet-Koppal section in February 1986.

The Ministry stated, in February 1991, that to avoid delay in laying the tail end cable in future, it has now been decided to include its requirements in the main project estimate and also to get the work executed by the Project Circle itself.

29.9 Under-utilisation of the system

On commissioning of the system, 27 groups (324 channels) were planned to be provided under this project immediately against its ultimate capability for 50 groups (600 channels). The loading of the system was expected to be done in phases lasting over a year after the proving-in was completed.

But even after over four years of commissioning of the system, the number of groups provided was only 19 (228 channels), whereas, on account of the Department's inability to cultivate and develop flow of traffic, their utilisation has been grossly low, and not touched even half the available capacity as under :

Year	No. of groups commissioned	Cumulative No. of groups available	channels available	channels utilised	unutilised channels	Percentage utilisation of channels
1985-86	9	9	108	Nil	108	Nil
1986-87	5	14	168	59	109	35
1987-88	5	19	228	79	149	35
1988-89	Nil	19	228	97	131	43
1989-90	Nil	19	228	107	121	47

Further, though allocation of 43 channels on the route had been made between October 1986 and September 1989 from out of the 121 spare channels, the same could not be commissioned due to non-availability of cable pair, relay plate and other equipment in local exchanges at Hospet and Koppal.

29.10 Time and cost overrun

Due to lack of proper planning and coordination amongst the various wings of the Department, the project, which was expected to be commissioned by March 1983, was actually commissioned after a delay of about three years. The delays in construction of buildings, procurement and installation of equipment, and laying of tail end cable connecting coaxial stations with local exchanges were the main factors responsible for the time overrun.

Resultantly, and otherwise also, against the sanctioned cost of Rs.156.23

lakhs, the expenditure incurred till the end of March 1990 was Rs. 328.47 lakhs, an increase by over 110 *per cent*. The increase was mainly under (i) buildings and electric installation (146 *per cent*); (ii) equipment (191 *per cent*), (iii) general administration (84 *per cent*) and (iv) cables (31 *per cent*).

The main reasons attributed by the Department for the cost overrun were as under:

(i) increase (Rs.128.36 lakhs) on apparatus and plant as provision of Rs.67.63 lakhs was made on the basis of budgetary prices whereas prices charged by ITI were Rs.195.99 lakhs;

(ii) increase (Rs.20.78 lakhs) in cost of cable, labour and other material;

(iii) escalation (Rs.18.96 lakhs) in the cost of construction of coaxial buildings, and

(iv) payment of increased pay and allowances to the staff (Rs.4.60 lakhs) as a result of Fourth Pay Commission recommendations.

29.11 Monitoring mechanism

A system of preparation of monthly and quarterly progress reports and their submission to Circle Office and to the Directorate existed. Periodical coordination committee meetings were held from time to time and a programme evaluation review technique (PERT) chart was also maintained. But the fact that the various executing wings of the Department were unable to adhere to the targets indicated in the PERT chart showed that either the planning was defective or the monitoring was not effective either at the Circle or at the Directorate level.

29.12 Continuing losses instead of envisaged profits

As per the original sanctioned project estimate, the project was expected to earn a net revenue of Rs. 44.73 lakhs *per annum*. And the revised project estimate prepared in January 1989 (yet to be sanctioned) indicated a net revenue of Rs.40.03 lakhs *per annum* (after adjusting annual recurring expenditure), working out to a return of 11.46 *per cent* over the investment (Rs.349.33 lakhs) against 28.63 *per cent* as per the original project estimate.

But going by the traffic actually flowing through the system and the allocable annual recurring expenditure as computed by the Department for the revised project estimate of January 1989, the system is running at a loss since its commissioning in 1986 though on a diminishing scale, as under :

Year	Gross Revenue earned	Annual expenditure	Loss
	(Rs. in lakhs)		
1986-87	18.14	71.91	53.77
1987-88	24.01	71.91	47.90
1988-89	41.87	71.91	30.04
1989-90	60.83	71.91	11.08

The cumulative loss over the last four years works out to Rs.142.79 lakhs.

While admitting that the actual traffic was less than that projected, the Ministry stated, in February 1991, that the traffic indicated in the estimate was based on a number of assumptions like expected industrial expansion, commercial activity, social development, automatisation of exchanges, etc. The transmission medium is planned taking the growth of traffic during the next 8-10 years and that the revenue earned in the commissioning year or one/two years later may not be taken as the real indicator of revenue earning potential of any long transmission media. Actually revenue after stabilisation of the system, i.e., after 4-5 years, may be relevant.

However, the fact remains that apart from the above argument being not in conformity with the projection of revenue made by the Department itself, it is already more than four years that the system was commissioned and that even during 1989-90 the system, far from earning revenue, was running at a loss.

30. Ahmedabad telephone system

30.1 Introduction

The Ahmedabad Telephone District was formed in May 1967 and attained the status of a major telephone district in October 1976. It consists of 21 local exchanges, one 4060 line trunk automatic exchange and a 2000 line stored programme controlled telex exchange. The equipped capacity was 151700 telephone lines as on 31st March 1990 against which 138114 direct exchange lines were working.

30.2 Scope of Audit

The working of the system for five years ended March 1990 was reviewed by Audit mainly in April 1990.

30.3 Organisational set up

The General Manager, Telecommunications, Ahmedabad controls the operation and maintenance of this system and is also responsible for execution and monitoring of planned programmes. He is assisted by three Deputy General Managers, two Assistant General Managers

and an Internal Financial Advisor.

30.4 Highlights

The review brings out, *inter alia*,

-There were 25513 subscribers on the waiting list as on 31st March 1990. Underutilisation of the equipped capacity deprived those on the waiting list for connections of the needed service, apart from contributing to loss of potential revenue of Rs.10.56 crores approximately over the five years ended March 1990.

-The actual revenue per direct exchange line was less than the target fixed, resulting in shortfall of revenue amounting to Rs.12.40 crores during 1985-90. The position deteriorated during 1989-90 when the shortfall of revenue amounted to Rs.7.54 crores.

-Similarly, ineffective trunk calls resulted in a loss of potential revenue to the extent of over Rs.1.68 crores during 1985-90.

-On the expanded electronic digital exchange for Naranpura involving huge investment of Rs.34.61 crores which was envisaged to be remunerative (expected net revenue of Rs.1.48 crores per annum), the Department incurred a net loss of about Rs.2.18 crores in the two years ended March 1990.

30.5 Utilisation of equipped capacity

According to the departmental instructions, exchange capacity should be utilised to the extent of not less than 90 *per cent* soon after expansion/installation and in any case not later than six months of such expansion/installation and to the extent of not less than 94 *per cent* about six months before the date of commissioning of next expansion subject to overall utilisation of 92 *per cent* of total capacity after expansion.

The system had an equipped capacity of 91000 lines with 80366 direct exchange lines working and 27173 subscribers on the waiting list on 31st March 1985. During the Seventh Five Year Plan (1985-90), lines added were 60700 apart from 5700 replacements. As on 31st March 1990, the total equipped capacity of the system was 151700 lines with 138114 direct exchange lines working and 25513 subscribers on the waiting list. The overall utilisation of the total equipped capacity as at 31st March 1990 was 91 *per cent*. Apart from the subscribers on the waiting list being deprived of the service, on the basis of actual earnings per line per month, the loss of revenue on account of underutilisation, which ranged between 86.4 to 91.0 *per cent* against 92 *per cent* desired, worked out to Rs.10.56 crores approximately during the five years ended March 1990.

30.6 Financial performance

The revenue earned per direct exchange line (DEL) during the five years ended 1989-90 was below the targets fixed, except during 1987-88 and 1988-89, as detailed below:

Year	Targeted earnings per DEL per month	Actual earnings per DEL per month* (in Rs.)	Shortfall per DEL per month	Average no. of DELs	Revenue shortfall (Rs.in lakhs)
1985-86	375	346.00	29.00	83410	290.27
1986-87	395	378.00	17.00	95722	195.27
1987-88	470	478.46	-	108158	-
1988-89	607	612.87	-	118213	-
1989-90	658	609.75	48.25	130233	754.05
					1239.59

**Note* : Includes revenue accrued due to increase in tariff with effect from June 1986, and April 1988, but whether the corresponding increase in targets due to revisicn of tariff was made is not known.

Thus, the financial performance of the system was poor during 1985-86 and 1986-87 and deteriorated during 1989-90 resulting in shortfall of revenue of Rs.1239.59 lakhs with reference to the targets fixed/ planned during five years ended March 1990. The shortfall in revenue was attributed by the Area Manager controlling the system to installation/expansion of exchanges in areas covered by residential localities. This reasoning is not tenable as this fact was well known at the time of framing the estimates of revenue.

30.7 Ineffective trunk calls

Targets were fixed every year for the percentage of effective trunk calls after making due allowance for existing constraints on the maintenance and operation of the system.

The number of calls booked, matured and the related percentage of effective and ineffective calls during the five years ended March 1990 were as under:

	1985-86	1986-87	1987-88	1988-89	1989-90
Number of calls booked (in lakhs)	34.73	37.76	27.70	45.35	32.98
Effective calls (in lakhs)	24.90	27.50	21.70	36.39	25.75
Ineffective calls (in lakhs)	9.83	10.26	6.00	8.96	7.23
Percentage of effective calls	71.70	72.83	78.34	80.24	78.08
Percentage of ineffective calls	28.30	27.17	21.66	19.76	21.92
Targets fixed for effective calls (percentage)	74.70	74.70	75.00	82.00	85.00
Shortfall in percentage of effective calls	3.00	1.87	-	1.76	6.92
Total trunk call revenue (Rs.in lakhs)	587.00	635.00	785.00	1089.00	1163.98
Loss of revenue due to higher percentage of ineffective trunk calls (Rs. in lakhs)	24.56	16.30	-	23.89	103.16

Thus, the targets fixed for effective calls were not achieved which resulted in a shortfall of potential revenue to the extent of Rs.167.91 lakhs during the five years ended March 1990.

30.8 Other points

30.8.1 Naranpura exchange running in loss

Naranpura is a predominantly residential area in Ahmedabad city. To meet the demand for new telephone connections of this area, 8000 lines electronic digital exchange was commissioned in March 1987 and the capacity was expanded to 15000 lines in phases during 1988-89 and to 20000 lines during 1989-90. The actual total cost of 20000 lines was Rs.3461 lakhs against the estimated cost of Rs.3648 lakhs. According to the project estimate, the exchange was expected to yield a net revenue of Rs.148.24 lakhs *per annum*. The project instead

incurred a net loss of Rs.218.16 lakhs during 1988-89 and 1989-90. Thus, the projections of the Department were unrealistic.

30.8.2 Installation of trunk automatic exchange and incoming trunk tandem

A 2000 lines trunk automatic exchange (TAX) was commissioned in October 1977. The capacity was increased in stages to 4060 lines in May 1984 and March 1986. TAX was to handle the outgoing and transit traffic. To meet the incoming terminating traffic at Ahmedabad, a 1300 lines incoming trunk tandem (ITT) was commissioned in May 1977, which was further expanded in stages to 2596 lines by January 1985. Total cost including expansions of TAX and ITT was Rs.689.14 lakhs.

It was noticed in Audit in April 1990 that out of 1060 lines and 1350 lines provided, in stages, in TAX and ITT respectively to connect different distant and local strowger exchange (SXS) stations, only 696 lines in TAX and 499 lines in ITT could be utilised till January 1990. The spare capacity of 364 lines in TAX and 851 lines in ITT was permanently blocked as it cannot be interchanged to other routes, viz., cross-bar and there is no prospect of a new SXS in the telephone network in future. The Department, thus, had invested Rs.137.27 lakhs (on proportionate basis) from which no returns could have been/could be expected in future.

30.8.3 Purchase of ready built flats in Maninagar

A sum of Rs.65.99 lakhs was paid, in August 1985 and January 1986, to the Ahmedabad Municipal Corporation (AMC) towards purchase of 48 type 'A', 20 type 'B' quarters and eight shops at Maninagar. The Mazdoor Association of AMC obtained a stay order from the court against the sale of quarters and the quarters were finally handed over in May 1988. As the quarters purchased were not of departmental standard, the Department converted 20 type 'A' quarters into 10 type 'C' quarters of departmental standard at a cost of Rs.1.84 lakhs and allotted them to the eligible staff between February and June 1990. The remaining 48 quarters (28 type 'A' and 20 type 'B') were to be utilised for ladies dormitory and transit accommodation. Applications for ladies dormitory were invited but there was no response. Also there was no demand for transit accommodation and the existing transit quarters at Vejalpur, which is about 15 Kms. away from Maninagar, were also lying vacant for want of applicants.

Thus, lack of proper assessment of demand while planning the purchase of quarters involving investment of over Rs.65.99 lakhs resulted in blocking of these funds for over four years besides the Department's inability to fully utilise acquired accommodation in a location of importance as Ahmedabad.

These observations were referred to the Ministry in September 1990; reply has not been received (February 1991).

31. Installation of digital trunk automatic exchange at Cuttack

31.1 Introduction

The Department sanctioned, in June 1981, a project for installation of a 2000 line crossbar trunk automatic exchange (TAX) at Cuttack at an estimated cost of Rs.332.16 lakhs. Subsequently, in August 1982, the Department decided to import digital switching system, considered to be more sophisticated and reliable, and install a 1000 line digital TAX (D-TAX) instead of crossbar TAX as planned earlier. Accordingly, a fresh project, estimated to cost Rs. 306.67 lakhs, was sanctioned in August 1983.

The 1000 line D-TAX at Cuttack scheduled to be commissioned in March 1987, was commissioned in January 1988. The total expenditure booked till February 1990 was Rs.383.60 lakhs, denoting an increase of over 25 *per cent* over the sanctioned estimate.

31.2 Scope of Audit

A review of the project covering its installation, commissioning and utilisation was conducted by Audit in January-February 1990.

31.3 Organisational set up

The project was executed by the Chief General Manager, Telecommunications Projects, Calcutta (CGM) in coordination with and assistance from the General Manager, Telecommunications, Orissa Circle and the Civil and Electrical Engineering Wings of the Department.

31.4 Highlights

The review brings out, *inter alia*,

-Due to Department's inability to arrange for the needed tools and installation staff and to complete the environmental works, the commissioning got delayed by 10 months, and resulted in a loss of potential revenue of Rs 73.31 lakhs.

- Even after incurring an expenditure of Rs.17.79 lakhs on installation of a separate 500 KVA transformer sub-station and the feeder cable, the Department was yet to arrange and provide adequate power supply for the digital TAX although it was commissioned over two years back.

-There had been delay of over two years in installation of the central air conditioning plant, and, after installation, the plant costing over Rs.25 lakhs had not been put to optimum use.

-Logistical failures contributed to the underutilisation of the capacity of the exchange. As against the projected revenue of Rs.87.97 lakhs per annum, actual revenue in 1988-89 and 1989-90

was Rs.35.62 lakhs and Rs.53.23 lakhs only, shortfall being due to less than the anticipated traffic flowing through the system.

31.5 Commissioning of D-TAX

An order for supply of electronic digital TAX equipment and related services was placed on a French firm in May 1984 as per an agreement entered into with it in November 1983. Installation, testing and commissioning of D-TAX was to be carried out by the Department under the overall supervision and technical assistance of the firm in accordance with a time schedule mutually decided. Installation was to commence in September 1986 and commissioning done by March 1987. On a joint review by the Directorate alongwith the representatives of the firm in August 1986, considering the availability of tools, installation staff, provision of which was the responsibility of CGM, installation and commissioning were put off to November 1986 and June 1987 respectively. Due to non-completion of other environmental works by CGM, the position was again reviewed jointly in July 1987, and deferment of commissioning to December 1987 was agreed to. The imported equipment costing Rs.231.04 lakhs was received at site in December 1986 but the installation commenced in May 1987 and the D-TAX was commissioned in January 1988.

Thus, the imported equipment remained idle for a period of four months, the actual time taken for installation was two months more than the scheduled time and the D-TAX which was scheduled to be commissioned in March 1987 was commissioned after a delay of 10 months in January 1988.

The delay in commissioning the D-TAX had led to a loss of potential revenue of Rs. 73.31 lakhs to the Department besides depriving the intending subscribers the facilities of a reliable TAX media.

31.6 Provision of power supply

According to the project estimate, for un-interrupted power supply for the working of the D-TAX, a separate transformer sub-station was needed. This was known to the Orissa Telecommunications Circle as early as in March 1980/ June 1981, when the project for the crossbar TAX was approved/sanctioned. Instructions were also issued to the circles by the Directorate in August 1983 to ensure that services like power supply, air-conditioning, etc., were available well in time so that installation of D-TAX equipment could be commenced as soon as it was received at site. Despite all this, it was only in December 1984 that for the installation of 500 Kilo Volt Ampere (KVA) transformer sub-station for D-TAX building, the General Manager, Telecommunications, (GMT) Orissa Circle issued sanction for Rs.5.66 lakhs. The Superintending Engineer, Telecommunications, Electrical Circle, Calcutta took 10 months thereafter to sanction the estimate technically for Rs.7.20 lakhs in October 1985 and the Executive Engineer,

Telecommunications Electrical Division, Calcutta (EETE) took another one year to award the work to a contractor in October 1986 at a cost of Rs.8.25 lakhs for completion by March 1987. The work was completed in October 1987 at a cost of Rs.9.64 lakhs, but, even then, the sub-station had not been commissioned due to non-augmentation of service connection from Orissa State Electricity Board (OSEB).

The OSEB was approached by the GMT in October 1985 for providing a separate feeder for connecting to the existing 250 KVA transformer as also the additional 500 KVA transformer sub-station. The Department deposited Rs.5.00 lakhs in August 1986 against an estimate for feeder cable submitted by OSEB. In June 1987, the OSEB sent a revised estimate for Rs.8.15 lakhs and asked the Department to deposit the balance immediately. On payment of the balance amount in February 1988, the feeder cable was laid by OSEB and the power supply commenced in April 1988.

Although the power supply through the feeder cable commenced in April 1988, due to constant low voltage, the engine alternators had to be operated simultaneously as a regular measure. The extra expenditure incurred on this account during April 1988 to December 1989 was Rs.2.08 lakhs.

An estimate of Rs.6.44 lakhs for installation of automatic voltage regulator (AVR) was stated to have been sanctioned in January 1990 by the GMT and the work order for the [illegible]pose was placed in Octo[illegible]1990. The AVR was expecte[illegible]o be commissioned by March 1991. Thus, even after incurring an expenditure of Rs.17.79 lakhs on the 500 KVA transformer sub-station and the feeder cable, the Department was yet (November 1990) to arrange and provide adequate power supply for the D-TAX.

31.7 Installation of air conditioning plant

A provision of Rs.7.63 lakhs was made in the project estimate for the installation of 50 ton capacity centralised air-conditioning plant for D-TAX. However, as suggested by Surveyor of Works (Electrical), New Delhi, an estimate for a 166 ton capacity air-conditioning plant for the entire telecom building was sanctioned in August 1983 for Rs.26.81 lakhs since air-conditioning in other areas of the building also was subsequently considered to be necessary.

Tenders for supply, installation, testing and commissioning of the plant were invited by the Executive Engineer, Telecom Electrical Division-II, Calcutta in March 1984. The offer of firm 'A' was accepted at a total cost of Rs.25.47 lakhs in February 1985. The work order was issued in May 1985 with the stipulated date for completion as February 1986.

Pending acceptance testing, the air-conditioning plant was commissioned in June 1988. According to the electrical wing of the Department, the delay was on the part of

the civil wing of the [illegible]artment in construction of the civil works pertaining to the air-conditioning room, which were completed in August 1986, and in construction of the pump room for supply of water to air-conditioning plant, which was completed in February 1987. There was also delay in supply of power by OSEB which was commenced in April 1988.

Certain tests like the summer and winter acceptance tests had not been carried out (March 1990). The monsoon test was carried out once in August 1988 when, to overcome the low voltage problem, the authorities had suggested installation of automatic voltage regulator (AVR). The monsoon test was again carried out in July 1989 when the low voltage problem was found to be persisting. While the installation of AVR at an approximate cost of Rs.6.00 lakhs was stated to be in progress and the summer and winter tests of the plant, though expected to be conducted again during May and December 1990, not (yet) conducted (November 1990), the air-conditioning plant was being operated from February 1990 for limited hours only, due to non-availability of power with the needed voltage on a continuous basis.

Thus, not only there had been delay of more than two years in the installation of the plant, even thereafter the plant costing over Rs.25 lakhs was yet to be put to optimum use (November 1990).

31.8 Utilisation of the capacity

D-TAX was designed to provide 1410 circuits. As per the circuit matrix approved by the Directorate in October 1986, immediately on its commissioning, 1010 circuits were to be utilised by extending circuits to 20 dependent stations and seven distant TAXs which were to be connected to it. In January 1988, when D-TAX was commissioned, 1038 circuits (73.62 *per cent* of the installed capacity) were assigned to it.

However, due to failure of the project circle to provide channeling equipment at Cuttack coaxial station, the full complement of circuits could not be provided as per the matrix when D-TAX was commissioned in January 1988. Only 12 dependent stations and two distant TAXs were connected to it then bringing altogether only 363 circuits into operation which worked out to 35 *per cent* of the allocated 1038 circuits.

Further, due to failure of the project circle to provide transmission media and relay plates, connection to other dependent stations could be provided only by December 1988, taking utilisation to 93.5 *per cent*.

Thus, logistical failures contributed to the delay in timely utilisation of capacity.

31.9 Financial status

According to the project estimate sanctioned in August 1983, the Department expected to earn a revenue, attributable to D-TAX, of Rs.87.97 lakhs *per annum* as per the tariff rates then prevailing. However, even taking into account the revised tariff rates, the actual revenue that accrued to D-TAX in 1988-89 and 1989-90 was Rs.35.62 lakhs and Rs.53.23 lakhs respectively. The shortfall was due to much less than the anticipated traffic flowing through the system.

These observations were referred to Ministry in October 1990; reply has not been received (February 1991).

CHAPTER IX

STORES

32. Procurement of air compressors

In order to feed dry air continuously to the pressurised cables for preventing ingress of moisture into the cables resulting in cable faults, Calcutta Telephones purchased 77 compressor drier units, imported as also indigenous, at a cost of over Rs.34 lakhs between April 1979 and June 1987 for being installed in its all the 49 exchanges.

According to joint inspection undertaken by the departmental officers and the suppliers, 28 units, all indigenous, were received in damaged condition. Of these, 15 units were repaired by the suppliers and put to use, one was repaired by the maintenance staff before being put to use and the balance 12 procured in March 1985 and costing Rs.5.93 lakhs were still unserviceable (June 1990).

It was noticed by Audit that Calcutta Telephones had requested Telecommunications Directorate in May 1985 that the case for their repair be taken up with the firm without delay. No effective action had been taken by the latter. The object of eliminating cable faults caused by ingress of moisture could not, therefore, be fully achieved. The Directorate stated, in December 1990, that the relevant files were not traceable.

The contention (January 1989) of Calcutta Telephones that these 12 compressor drier units were being kept as a stand by and, therefore, the object was not defeated in any manner is not acceptable since eight exchanges have still not been provided with these units.

The matter was referred to the Ministry in August 1990; reply has not been received (February 1991).

33. Blocking of funds due to procurement of unwanted equipment

Against the requirement of auto manual boards intended for special service, boards that work only with PABXs were indented, received and remained unutilised for over five years blocking funds of Rs.5.40 lakhs.

With reference to an order placed by the erstwhile Posts and Telegraphs Directorate in July 1983, 22 boards costing Rs.6.26 lakhs were supplied by the Telecommunications Factory, Bombay to the Kumbakonam Division of the Tamil Nadu Circle between April 1984 and February 1985. These were found to be manual boards which work with PABXs and were not the required auto manual boards intended for special service. Six out of 22 boards were, therefore, diverted to other divisions in August 1986, January 1987, and

May 1990, while the remaining 16 boards valuing Rs.5.40 lakhs were lying unutilised (July 1990).

This discrepancy occured as the Divisional Engineer, Telecommunications, Kumbakonam had not given the correct nomenclature of the item while indenting it. The Circle Office and the Directorate did not also detect the mistake before placing the order.

The Ministry stated, in July 1990, that a decision has been taken to phase out the production of strowger type of telephone exchange equipment and PABXs of this type after 1989-90 and the 16 surplus boards would be kept in reserve for maintenance requirement of existing strowger exchanges. The Ministry added that instructions to the effect that indents for equipment should be clear and unambiguous with specifications mentioned in adequate detail were being issued.

The fact, however, remained that unwanted equipment costing Rs. 5.40 lakhs had been indented and had been idling for over five years.

34. Delayed procurement of modems

The Director General, Posts and Telegraphs (now the Department of Telecommunications - DOT) decided, in July 1977, to introduce public data network in the country and for that purpose to import the needed equipment. A proposal to import data modems, an instrument for provision of point to point data transmission circuit (to provide immunity from background noise, eliminate normal line distortion, etc.), against firm demands placed on the Department, was, therefore, approved by the Member (Telecommunications Operations) in June 1979. As a result of delays in making the tender enquiry, acceptance of the offer and placing of the purchase order, 162 modems (inclusive of 31 numbers standby) of two types costing Rs.76.57 lakhs were received only in July 1983 against orders placed in January 1982.

It was, however, noticed that only 43 modems were lifted by the customers between October 1983 and February 1986 because most of them, under the powers delegated in October 1980 and November 1983 to the Heads of Circles, had been allowed to use their own modems and had meanwhile cancelled their demand without any liability, since no deposit was needed to be obtained from them with their firm demand. Therefore, 74 modems were transferred to other units within the Department between June 1986 and July 1989 though there was no demand forecast made till then by these units. This has deprived the Department of the recurring revenue of Rs.4.18 lakhs *per annum* since November 1983 towards rental of 74 modems not lifted by the customers but consequently being used within the Department after June 1986/July 1989. Forty five modems were still lying in stock (December 1990).

The Ministry stated, in December 1990, that even after receipt of imported modems, a

number of customers preferred their own modems and it was not possible to resist the pressure from them to have their own modems due to their specialised need and advancement of technology. It added that 45 modems in stock, as a standby, were within the prescribed limit therefor.

Partly because of the time lag between receipt of firm demand (June 1979) and supply thereagainst (October 1983), the modems procured against firm demand were found to be not compatible with the requirements of the customers and advancement of technology. Allowing the customers to use their own modems despite procurement against their firm demand led to their underutilisation.

35. Loss due to non-extension of transit insurance

In November 1983, the Department of Telecommunications (DOT) placed an order on a foreign firm to import equipment costing Rs.69.96 lakhs for expansion of Janpath Tandem Exchange at Delhi by 2000 lines. The consignment, which was unloaded at Calcutta port on 25th October 1984, was cleared on 2nd January 1985. It was transported by rail to Delhi in February 1985 and it reached the Janpath Exchange in May 1985. On being unpacked on 3rd June 1985, ten cases containing battery cells were found damaged while in transit between Calcutta and Delhi involving loss of Rs.2.15 lakhs.

Since insurance cover, which was valid only upto 23rd January 1985, was not got extended, claim for making good the loss of Rs.2.15 lakhs due to damage in transit between Calcutta and Delhi was rejected by the insurers in September 1986.

The Ministry stated, in January 1991, that a preliminary claim was lodged on 31st December 1984 which was well within 90 days of landing of consignment at the port and the case for settlement of insurance claim was being pursued with the insurance company.

It is evident that the delay in getting the port clearance in time and thereafter not getting the insurance cover extended resulted in loss to the tune of Rs.2.15 lakhs.

CHAPTER X

LAND AND BUILDINGS

36. Delay in occupation of rented accommodation at Calcutta

Delay on the part of the Department in attending to minor items of civil and electrical works entailed unfruitful expenditure of Rs.5.82 lakhs on rent for a private building newly taken on hire.

On 4th May 1987, Calcutta Telephones reportedly took possession, on rental, of the fourth and fifth floors of a private building having a carpet area of 9902 sq.ft. for accommodating operative offices of the planning and the task force branches. The concerned offices occupied the rented premises over five months later, from 19th October 1987 (fourth floor) and 26th October 1987 (fifth floor). The premises thus remained unoccupied till then for which period Rs.1.04 lakhs per month, as recommended by Fair Rent Committee in April 1987, were paid towards rent.

The Chief General Manager, Calcutta Telephones stated in May 1990 that the accommodation taken on 4th May 1987 was of a hall type; certain electrical fittings costing Rs.0.69 lakh and provision of partition, etc., costing Rs.0.87 lakh had to be undertaken to provide for additional lighting and chambers for the officers/staff, which took time till the date of actual occupation.

It was noticed in Audit that electrical fittings were done within a week's time from 10th to 16th September 1987, while dates of undertaking the civil works were not available on record nor intimated by the Department.

The letter dated 4th May 1987 written by the Department to the landlord stated ".....lavatories are to be provided on these floors. Necessary lights and fan points should also be provided by you..... Lift services should be made available upto the fifth floor immediately". But the possession was reportedly taken from that very date "since the accommodation was complete with all kinds of services which are usually taken into consideration before processing any accommodation for renting purposes". It is doubtful whether accommodation was in fact complete in all respects on that day.

The matter was referred to the Ministry in July 1990; reply has not been received (February 1991).

37. Irregular payment of taxes

According to Article 285 of the Constitution of India, the property of Government of India is exempt from all taxes imposed by any authority within a State. The Ministry of Finance decided in 1954 to compensate local bodies for

provision of specific services such as water, drainage, scavenging but excluding educational, medical and public health services in respect of such property.

It was noticed by Audit in December 1987 that in respect of staff quarters at Vejalpur (Ahmedabad), the Department had made payment of Rs.1.30 lakhs to the State Government in June 1986 towards land revenue and local fund (Rs. 1.07 lakhs), education cess (Rs.0.13 lakh) and panchayat special tax (Rs.0.10 lakh) for the period 1972-73 to 1986-87. This payment was irregular. On being pointed out in Audit, the Department preferred a claim for refund in June 1989 but the refund had not been received (June 1990).

The matter was referred to the Ministry in May 1990; reply has not been received (February 1991).

38. Unfruitful expenditure on an overhead water tank

An overhead water tank, constructed in March 1982 at a cost of Rs.2.11 lakhs at Gultekdi Colony (Pune) to maintain municipal water supply to the residential quarters, collapsed in June 1986. With improvement in municipal water supply by March 1990, reconstruction of the collapsed structure has been deferred by the Department.

In its report submitted in April 1987, the Enquiry Committee, constituted in June 1986, and headed by a representative of the College of Engineering, Pune opined that while the design adopted was generally alright, the premature collapse was due to use of sub-standard material, poor workmanship, lean concrete and defective construction. It recommended that lumpsum contracts for such items of work should be discouraged. The Committee also recommended that there should be strict quality control measures at the site of work for such sensitive structures.

The Ministry stated, in September 1990, that action has been initiated against officers found responsible for shabby construction and negligence in supervision. Further developments were awaited (September 1990).

Thus, apart from denying the facility of adequate drinking water supply to its residents from June 1986 to March 1990 when improvement in municipal supply came about, the negligence in supervision has led to an unfruitful investment of Rs.2.11 lakhs.

CHAPTER XI

OTHER CASES

39-42. Delay in providing telecommunication facilities to the Defence Services

Departmental instructions issued in August 1979 and reiterated in April 1988 provided that there should not be undue delay in the provision of telecommunication facilities against rent and guarantee terms. Instructions had also been issued in 1985 to indicate the time frame for execution of the work while quoting rent and guarantee terms to the defence authorities for acceptance and to monitor the progress of work at circle level as to ensure timely completion. Four cases of delay in providing telecommunication facilities to the defence authorities noticed by Audit during December 1989 to February 1990 are mentioned below:

39. In December 1980, the Indian Air Force (IAF) placed two firm demands for providing immediately a 100 line extendable type PABX and a T-43 trunkboard at a station in Gujarat. Rent for the PABX was quoted in November 1981 and was accepted in March 1982. Rent for the T-43 board was quoted only in September 1982 and accepted in December 1982. Estimates for both the works were prepared in September 1982. It was envisaged that the board would be installed in the existing room without any technical difficulty. The estimates did not indicate any time frame for completion of the work. The time of about 21 months taken for quoting the rent and preparation of the estimates was stated to be due to difficulty in finalising the chargeable rent. This is not tenable as the departmental rules for fixing the rent are clear.

Indent for the PABX board was released in October 1982 and a supply order for it placed on the Indian Telephone Industries (ITI) in December 1982. Indents for the T-43 board and other stores were released in June 1983. After receipt of the entire equipment in June 1984, it was realised that the space earmarked for its installation was not sufficient as per departmental standards. The Telecommunications District Engineer (TDE) intimated that the needed accommodation was ultimately handed over to the Department by the IAF in November 1988. PABX and T-43 board were finally commissioned in July 1989.

Thus, delay in quoting the rent and not envisaging any difficulty about the accommodation required for installation till only after receipt of stores mainly led to the Department taking eight years to provide the facilities.

The Department also lost potential revenue of Rs.3.63 lakhs for the period January 1985 to July 1989. Installation charges and rent for the period July 1989 to April 1991

amounting in all to Rs.3.53 lakhs had also not been recovered. After being pointed out in Audit in December 1989, a sum of Rs.1.27 lakhs was recovered in March/July 1990. Recovery of the balance amount was awaited (October 1990).

The Ministry stated, in December 1990, that the time taken by the IAF in making the accommodation available to the Department, severe constraints because of security considerations and the difficult terrain were responsible for the delay. However, the fact remains that it had taken eight years to provide the facilities.

40. A firm demand for providing 2.5 kilometres 10 pairs 6.5 lbs cable for providing telephone extensions at a station in Gujarat on defence priority was placed by the Indian Air Force in June 1985. However, the estimate for the work was prepared only in June 1987. The indents for the stores were released in July 1987. While rent and guarantee terms calculated on the basis of capital cost were quoted in September 1987, the time frame for completion was not indicated, though required. The stores were received after two years, in June 1989.

The Ministry stated, in December 1990, that the work has been started from May 1990 and was nearing completion. Ministry attributed the delay in commencement of work to non-receipt of stores till June 1989 and premature rains thereafter, difficult terrain and security considerations. Above reply is not wholly acceptable since the stores were to be procured from the departmental stores depot.

Lack of proper action on the part of the Department led to non-provision of the required facility to the IAF authorities even after five years, besides losing revenue of Rs.1.77 lakhs for the period from September 1985 to December 1990.

41. The Indian Air Force placed a firm demand in June 1981 on the Divisional Engineer, Telegraphs (DET), Silchar for providing a 200-line PABX on "operation immediate priority" basis. The DET quoted Rs.1.60 lakhs *per annum* as rent for the PABX and associated junction lines and issued a demand note in September 1982, which was revised to Rs.1.36 lakhs *per annum* for the PABX only with a guarantee period of five years. The revised rent (paid in March 1983 against advance demand note) was formally accepted by the IAF in July 1983.

The Posts and Telegraphs Directorate allotted the 200 line PABX equipment from the supply programme of the Indian Telephone Industries for the year 1984-85. The matter was neither regularly pursued by the DET, nor was the case taken up at a higher level for speedy procurement of the equipment. The IAF, after six years, cancelled its firm demand in March 1987 and, finding no other alternative, placed orders for an electronic exchange on UPTRON who installed it in June 1987.

Thus, inaction of the Department denied the much needed facility to the IAF for

six years and incidentally also deprived the Department of potential revenue to the extent of Rs.1.36 lakhs *per annum*.

The Ministry stated, in December 1990, that the delay occurred partly because supply of equipment by Indian Telephone Industries was behind schedule by three years by which time the IAF had decided to go in for the alternative equipment from UPTRON. But, instructions have since been issued, in September 1990, to all concerned field units to arrest delays of such nature.

42. Naval Dockyard, Visakhapatnam placed a firm demand in March 1982 for expansion of the 400 lines PABX to 800 lines. The provisional rent of Rs.2.32 lakhs *per annum* with guarantee period of seven years for the additional 400 lines based on the estimated capital cost of Rs.23.07 lakhs was accepted by the subscriber in March 1983.

The equipment was received by September 1986, but the PABX was commissioned in April 1988, i.e., after a delay of more than a year, resulting in loss of potential revenue amounting to Rs.3.30 lakhs. The delay was partly attributable to the Department not quoting the revised rent and guarantee terms in time.

Further, rent for the period from April 1988 to April 1990 in respect of the additional 400 lines board was recovered at the rate of Rs:2.32 lakhs *per annum* instead of Rs.3.30 lakhs *per annum* and rent amounting to Rs.3.30 lakhs in respect of the existing board for the year 1989-90 was omitted to be billed resulting in short billing of Rs.5.27 lakhs. On being pointed out by Audit, recovery was made in February-March 1990.

The Ministry stated, in December 1990, that there was regrettable delay in the billing.

43-44. Telecommunication facilities to the All India Radio at Sangli and Bhadrawathi

Departmental instructions issued in August 1979 and reiterated in April 1988 provide that there should not be any undue delay in providing telecommunication facilities requisitioned by the subscribers on rent and guarantee basis. These instructions further provide that in order to achieve the above objective, various stages of work should be monitored to ensure timely completion of the work. However, two cases of delay in providing telecommunication facilities to the All India Radio (AIR) are given below.

43. In connection with the proposal for establishing permanent studios for the AIR at Sangli, the AIR placed a firm demand, in May 1984, for providing broadcasting quality long distance telephone lines and deposited the advance provisional rental in November 1984. The estimate, sent to the Director, Telecommunications, Kolhapur by the Telecommunications District Engineer (TDE), Sangli in December 1984 was sanctioned only in February 1986, after more than a year, as against the prescribed three months as

per departmental instructions. Further, against requisition for 26 kms length of cable placed on the General Manager, Telecommunications (GMT), Maharashtra Circle, Bombay in January 1985, the allotment was made only in May 1987, after more than two years, as against one month prescribed. But the supply was still to be made (September 1990).

Thus, telecommunication facility required by the AIR authorities had not been provided till date (September 1990) even after a lapse of six years. This resulted in loss of potential revenue amounting to Rs.20.43 lakhs since July 1985 when the permanent studio of AIR was commissioned.

The matter was referred to the Ministry in August 1990; no reply has been received (February 1991).

44. In connection with the proposed commissioning of AIR studio at Bhadrawathi in June 1986, the AIR placed in October 1984 a firm demand for laying 10 Kms underground cable. Advance provisional rental on this account demanded in June 1985 was paid by the AIR in July 1985. But the telecommunication authorities sanctioned the estimate amounting to Rs.8.64 lakhs in November 1986. Except for loading coils which were not available with stock depot since 1986, all major stores costing Rs.8.19 lakhs were received during June 1986 to May 1987. The cable laying work commenced in November 1986. Due to non-availability of loading coils, the cable jointing work was done by adopting straight joints system and completed in July 1987 without inserting the loading coils. Consequently, the cable did not meet the transmission characteristic required by the AIR and the system could not be commissioned. As a stop gap arrangement, the AIR studio was commissioned in October 1987 by providing overhead telecommuncation link. Ultimately, the loading coils were purchased from the market in June 1989 at a cost of only Rs.0.11 lakh and inserted in the cable system in September 1989, straight joints were replaced by systematic joints and the system commissioned in the same month. The overhead line, provided as a stop gap arrangement, was dismantled in November 1990.

Incidentally, since electric lines existed in the vicinity of the telecommunication cables, to safeguard the latter, necessary protective devices were required to be provided. This was, however, not done till March 1990 even though the system was commissioned in September 1989, thereby leaving the system open to the risk of power induction.

The Ministry stated, in February 1991, that the work could not be completed in time because of non-availability of loading coils within a reasonable period through established channels.

The Department was aware of the necessity of loading coils as it was indicated in the estimate. The loading coils being not available in the store depot since 1986, no timely alternate arrangement

was made to procure them though they cost merely Rs.0.11 lakh. This led to delay of over two years in provision of the facility to the AIR and loss of potential revenue of Rs.6.44 lakhs from August 1987 till September 1989 and Rs.1.26 lakhs loss on dismantling of the overhead line.

45. Telephone facilities to a hotel at Satara

A private subscriber placed a demand in April 1981 for installation of 20+100 lines PABX board for use in his hotel at Satara.The Sub Divisional Officer, Telecommunications, Satara asked the subscriber in April 1981 to note that the obligatory junction lines for hiring the requisite board were 20. He was, therefore, asked to register his demand for 17 more telephone connections and the remaining three junction lines were to be provided by converting his existing three telephone connections. The subscriber registered the demand in June 1981 under non-Own Your Telephone (Non-OYT)-general category and deposited a sum of Rs.0.14 lakh.

Indents for the stores and equipment were placed with the Controller of Telegraphs Stores, Bombay in October 1981. Some stores were received between June 1982 and December 1983, but essential stores like PABX board, switch board and battery eliminator had not been received. The matter for the supply of the remaining essential stores was not pursued properly and these were received only in June 1986.The subscriber was advised, in June 1986, to convey his consent for conversion of existing demand under non-OYT into OYT by paying the required difference of deposit for the reasons best known to the Department. Accordingly, the subscriber deposited the requisite sum of Rs.1.02 lakhs, in August 1986, under OYT category.

Thereafter; the Telecommunications District Engineer (TDE), Satara realised that the requisite junction lines could not be provided even under OYT category. The General Manager, Telecommunications, Maharashtra Circle was, therefore, approached by the TDE, in March 1987, for according relaxation for providing the board of 100 lines by merely converting the existing two telephone connections into junction lines. The relaxation was received in June 1988 and the board was commissioned in August 1988.

Despite departmental instructions that the rent and guarantee cases should be provided without undue delay, it took the Department more than seven years for installing a PABX board of 100 lines. Even after receipt of stores in June 1986, the Department took more than two years to commission the board resulting in loss of potential revenue of Rs.1.08 lakhs to the Department for the period from August 1986 to July 1988.

The matter was referred to the Ministry in August

1990; reply has not been received (January 1991).

46-47. Provision of speech and teleprinter circuits and short realisation of rent

According to departmental instructions issued in 1979 and reiterated in 1988, proposals for telecommunication facilities on rent and guarantee terms should be promptly processed and works executed by the departmental authorities within a reasonable time period.

Two cases of delay which came to notice of Audit are discussed below.

46. In July 1983, the Special Bureau of Investigation (SBI), Shillong placed a firm demand on the Telecommunications District Manager (TDM), Shillong for provision of a Teleprinter circuit between Shillong and New Delhi on full time basis. According to the Chief General Manager, North Eastern Circle, local lead on the existing cable at New Delhi end was not made available till May 1985 due to non-obtaining of the party's clear address. At Shillong end lead was not provided till June 1986 though it was available from August 1984 itself, thus leading to unusual delay. SBI changed its demand from full time to part time basis in August 1986. The rent and guarantee terms for the revised demand were quoted by the Department in August 1986 and the facility was provided only from May 1987. Loss of potential revenue from May 1985 to May 1987 worked out to Rs.2.35 lakhs.

The Ministry attributed (September 1990) the delay in provision of the facility to non-acceptance of rent and guarantee terms and change of demand from full time to part time by SBI. However, it is not tenable as the Department had delayed quoting of the terms after July 1983 till August 1986 while the SBI changed its demand from full time to part time in August 1986.

Further, in November 1986, the Ministry revised tariff for certain inland telecommunication services effective from December 1986. While revising such tariff it was ordered that such circuits would be provided only on full time basis and not for a part of the day.The rent and guarantee terms of the circuit were not revised for full time basis in this case resulting in short realisation of Rs.5.47 lakhs from May 1987 to June 1990.

The Ministry stated, in September 1990, that bills for Rs.5.47 lakhs had since been issued and Rs 2.11 lakhs had been recovered in April 1990. The balance amount was expected to be recovered shortly and fixing of responsibility for non-revision of the rent and guarantee terms was under examination.

47. On receipt of a firm demand from the South Eastern Coalfields Limited in December 1986 for providing a speech circuit between Bhubaneshwar and Brajarajnagar, the General Manager, Telecommunications (GMT), Orissa circle allotted

the circuit in December 1987 at an annual rental of Rs.0.84 lakh with a guarantee period of one year. The Telecommunications District Engineer (TDE), Bhubaneshwar was nominated the billing and controlling authority for the circuit. In January 1988, the party paid the advance rental for one year alongwith installation fee on a demand note issued in December 1987. Though the requisite medium was available from September 1988, the facility was provided only in November 1989, after a lapse of over a year.

The delay in providing the circuit not only resulted in inconvenience to the subscriber but also deprived the Departnment of potential revenue of Rs.1.67 lakhs.

The GMT stated, in September 1990, that the delay was due to non-availability of spare K-system between Bhubaneshwar and Sambalpur, relevant relay sets for leased speech circuits and also due to location of the place being in the most underdeveloped part of Orissa.

The reply is not tenable as the Department took more than one year even to fix rent and guarantee terms and did not initiate prompt action thereafter for another year for procuring the required K-system and relay sets.

Further, as a result of revision of tariffs from October 1988, the rent of the circuit was required to be revised to Rs.1.37 lakhs *per annum*, but the revision had not been done (July 1990) despite being pointed out by Audit in October 1989.

The matter was referred to the Ministry in July 1990; reply has not been received (February 1991).

48. Delay in handing over telecommunication lines

The Rajasthan Canal (now Indira Gandhi Canal) Project authorities placed a firm demand, in February 1979, for providing 108 Kms. of telegraph and telephone lines along the main canal and its branches. In spite of the departmental instructions that the works relating to rent and guarantee should be executed promptly, the Department took more than four years to sanction estimates amounting to Rs.9.49 lakhs. The work was started in October 1983 and completed in December 1985 after spending Rs.10.18 lakhs. As accommodation for installation of the telecom instruments was not provided by the canal authorities, the lines could not be commissioned and handed over so far (March 1990).

It was noticed by the Department in October 1987 that as alignment was lying idle since December 1985, 50 to 80 *per cent* of the components of the alignment were found missing and it would not be possible to commission the lines without carrying out the necessary repairs/replacements. Estimate amounting to Rs.5.11 lakhs, which represented 50 *per cent* of cost of original work, was sanctioned in March 1990.

Thus, owing to lack of coordination between the canal authorities and the Department in ensuring that the work relating to laying of the lines synchronised with the construction of the building, the telecommunication lines demanded by the canal authorities in early 1979 have not been commissioned and handed over so far(March 1990) which has resulted in a recurring loss of revenue. The Department has also to incur an extra expenditure of about Rs.5.11 lakhs in carrying out the repairs/replacements. This expenditure would increase due to further delay.

Interest on expenditure incurred is recoverable till the lines are handed over whereafter only rent is recoverable. On non-recovery of interest being pointed out in Audit in May 1986 and May 1988, the Department issued bills amounting to Rs.2.77 lakhs in July 1988 for the period from October 1983 to March 1988. Recovery thereof was awaited (March 1990).

The Ministry stated, in March 1990, that due to delay on the part of the Canal Administration in the construction of the huts for housing the magneto instruments, the lines had to be kept out of use, and on that account regular day-to-day maintenance was not feasible, which led to pilferage of components. It added that the lines being situated in the remote canal embankments, this loss could not be avoided. However, this reply is not tenable since the Department had failed to coordinate the matters with the canal authorities and did not take adequate action to ensure that the lines are commissioned and handed over.

49. Koppal - Gadag coaxial cable scheme

49.1 The Department of Telecommunications approved, in July 1983, a proposal for installation of 2.6 Mega Hertz (MHz)coaxial cable, system between Koppal and Gadag (62 kms) having 600 channels capability. Its main objective was to inter-link the two cities as to complete the network between Hubli and Guntakal (259 Kms) and also to provide flexibility to the existing trunk network. The project estimate for Rs.88.20 lakhs was sanctioned in March 1984 for completion by March 1986. The project organisation had stressed in August 1984 for immediate placement of orders and allotment of higher priority for supply of the requisite line and multiplexing equipment. However, the orders were placed by the Directorate on the Indian Telephone Industries (ITI) in March 1985,that is, after one year of sanction of the project estimate, for delivery by October 1985. ITI expressed its inability to complete it by then. The supply commenced in May 1986.

The installation of multiplexing equipment was completed in December 1987 and local testing completed in February 1988. But the system could not be offered for acceptance testing due to non-supply of route amplifiers costing Rs.2.57 lakhs by the ITI. These were received only

in October 1988 even though orders for them were placed in March 1985 alongwith other equipment and ITI was under the administrative control of the same Ministry. The route amplifiers were installed in December 1988 and testing completed in January 1989. The system was finally commissioned in March 1989.

49.2. The system needed provision of overall nine groups (108 channels). As five groups (60 channels) were already provided under other coaxial systems linked with Koppal-Gadag system, provision in this scheme was restricted to four groups(48 channels) only. Notwithstanding this, order was placed for equipment for nine groups resulting in excess procurement of equipment for five groups involving Rs. 7.07 lakhs. Other equipment costing another Rs.5.39 lakhs had also been procured though no provision for it existed in the project estimate. Moreover, of the four groups for which end equipment had been installed, only one group had been commissioned resulting in non-utilisation of equipment costing Rs.4.24 lakhs. Equipment costing Rs 3.16 lakhs had also not been installed (May 1990) though provided for in the project estimate.

49.3. As against the sanctioned cost of Rs.88.20 lakhs, the actual expenditure incurred till November 1989 was Rs.175.79 lakhs, an increase of nearly 100 *per cent* due mainly to escalation in cost of cables (82 *per cent*) and equipment (260 *per cent*) including excess procurement. The revised project estimate has not been prepared so far (May 1990).

49.4. The 2.6 MHz system has a capability of 50 groups of 12 channels each, i.e.,600 channels. The project provided for 48 channels (four groups) to be utilised immediately on commissioning. But according to the Department (January 1990), only five channels were being utilised, for want of traffic.

On its commissioning, the project was expected to earn a net revenue of Rs.11.52 lakhs *per annum*. It, instead, incurred a loss of Rs 8.85 lakhs during 1989-90 since far less traffic flowed through the system.

To sum up:

- **It took the Directorate one year after sanction of the project estimate to place orders for line and multiplexing equipment on ITI. Delay of another year took place in procurement of route amplifiers, causing, partly, overall delay of three years in commissioning of the system.**

- **Equipment costing Rs. 12.46 lakhs was procured in excess of requirement of the project and that costing Rs.3.16 lakhs was not installed and the installed equipment costing Rs.4.24 lakhs was not utilised.**

- **Though the project was expected to earn a net revenue of Rs.11.52 lakhs per annum, it in-**

curred a loss of Rs. 8.85 lakhs during 1989-90 since far less traffic flowed through the system.

The Ministry stated, in February 1991, that (i) there was no delay in placing order on ITI, (ii) the surplus equipment worth Rs.5.39 lakhs has been transferred and utilised in other routes/schemes, and (iii) the revenue earned in the commissiong year or one or two years later may not reflect the revenue earning potential of long transmission media.

The fact remains that the orders for equipment were placed on ITI after one year of the sanction of the project estimate. The Ministry did not clarify the reasons for excess procurement of group equipment. Further, lapse of any minimum period after commissioning was not indicated while giving the revenue forecast in the project estimate.

50. Premature expansion of trunk automatic exchange at Jaipur

The expansion of the trunk automatic exchange (TAX) at Jaipur from 2000 to 3000 lines involving an investment of Rs.135.12 lakhs turned out to be a losing proposition. The entire expanded capacity of 1000 lines, commissioned in March 1987, remains totally unutilised and the Department has to spend Rs.26 lakhs *per annum* on its maintenance instead of realising the net revenue return of Rs.35.79 lakhs. This turn of events is attributable to (i) non-availablity of media and switching equipment to / at distant ends; and (ii) some stations primarily meant to be parented to TAX at Jaipur, were being parented to TAXs at Jodhpur and Udaipur commissioned in 1988. These reasons convey that all relevant factors were not taken into account while deciding on the expansion.

A 2000 lines TAX at Jaipur was commissioned in two phases of 1000 lines each in May 1981 and March 1983, at a cost of Rs. 296.19 lakhs.

While the work was in progress, the Director General, Posts and Telegraphs (DGPT) sanctioned one more project estimate, in May 1979, for further expansion of the TAX from 2000 to 3000 lines at an estimated cost of Rs.88.33 lakhs. The expansion was justified on the ground that Jaipur was one of the trunk switching centres in National Trunk Switching Plan and the 2000 lines TAX under installation would not be able to cater to many of the exchanges in Rajasthan. The expansion was envisaged to yield a net revenue of Rs.35.79 lakhs *per annum* which constituted 40 *per cent* return on the capital outlay. The expansion expected to be commissioned in 1982-83, was commissioned in March 1987 at a total cost of Rs.135.12 lakhs. But the TAX capacity at Jaipur was grossly underutilised even at the end of March 1990, as out of the installed capacity of 3000 lines, 1734 lines only were being utilised.

The Ministry stated, in December 1990, that though the utilisation with reference to

the number of lines was only 58 *per cent* of the expanded capacity of 3000 lines of the TAX, the traffic handled by multifrequency registers (part of common control equipment) indicated full utilisation of the equipment installed. The revenue earned by Jaipur TAX, based on the traffic carried on 31st March 1990, was Rs. 332.03 lakhs *per annum* and the amount proportionate to 1000 lines expansion was Rs.110.68 lakhs *per annum* and as such there was no loss of revenue from the expansion.

The utilisation of the capacity is determined with reference to the equipped line capacity, and the Ministry has admitted that its utilisation was to the extent of only 58 percent. Thus, the entire expanded capacity of 1000 lines of the TAX remained unutilised. Apart from the fact that the revenue earned as given by the Ministry is the gross amount, without deduction of recurring expenditure on repairs and maintenance, the expanded 1000 lines not having been utilised at all, there could be no question of their earning any revenue. Further, 250 multifrequency registers provided as a part of expansion from 2000 to 3000 lines would have cost only about Rs. five lakhs and that could have taken care of the traffic handled.

51. Idle exchange equipment

Equipment valued at Rs.12.61 lakhs for the Imphal telephone exchange procured during July 1982 to May 1983 remained unutilised for over seven years and was subject to deterioration due to continued storage.

The Director General, Posts and Telegraphs sanctioned in November 1978 installation of 2100 lines MAX-I (strowger) at Imphal at an estimated cost of Rs.77.20 lakhs, comprising a building (Rs.30.27 lakhs), equipment (Rs33.89 lakhs) and cables (Rs.13.04 lakhs). Equipment costing Rs.12.61 lakhs was received by the Divisional Engineer, Telegraphs, Imphal during July 1982 to May 1983 from the Indian Telephone Industries, Rae Bareilly, but a building to install it was not ready by that time. Meanwhile, installation of 2100 lines MAX-I was dropped (December 1983) and installation of 2000 lines electronic exchange (PRX) was decided on the ground that Imphal being a State capital it needed such a system.

Consequently, equipment costing Rs.1.37 lakhs was diverted in December 1983 to Agartala for utilisation in the expansion of Agartala MAX-I and equipment costing Rs.1.93 lakhs was sent in March 1984 to Circle Store Depot (CSD), Guwahati. Subsequently, in May 1987, the General Manager, Telecommunications, North Eastern Circle approved diversion of a total of 1000 lines exchange equipment for expansion of Guwahati MAX-I and 600 lines equipment for expansion of Agartala MAX-I, thus leaving equipment for 500 lines yet undecided. But in August 1989, the entire equipment valuing Rs.9.31 lakhs was still lying with Sub-Divisional Officer, Telephones (SDOP), Imphal

packed in original cases not opened since their receipt. Some of these cases were, according to the SDOP, Imphal, lying in the open in deplorable condition with tarpaulin cover.

It was noticed in Audit, in January 1989, that all the equipment (Rs.1.37 lakhs) received by the SDOP, Agartala on diversion from Imphal was considered unfit for utilisation owing to it having been received in a completely damaged and unserviceable condition and was lying there unutilised. It was also intimated by the Telephone District Manager, Guwahati (March 1989) and General Manager, Task Force, Guwahati (May 1989) that no exchange equipment was received by them on diversion from Imphal for utilisation in the expansion of Guwahati MAX-I. Thus, equipment sent to CSD, Guwahati was lying unutilised there.

Thus, due to lack of coordinated planning and pursuance, equipment valued at Rs.12.61 lakhs was not utilised for over seven years since its procurement and was subject to deterioration in continued storage.

The matter was referred to the Ministry in June 1990; reply has not been received so far (February 1991).

52. Blocking up of capital

In August 1982, the General Manager (since upgraded to Chief General Manager), Telecommunications (CGMT), West Bengal Circle sanctioned a project at an estimated cost of Rs.83.28 lakhs for installation of a 1200 lines MAX-I in replacement of the existing 900 lines MAX-II at Gangtok. Another project for its expansion from 1200 to 1500 lines at an estimated cost of Rs.22.27 lakhs was sanctioned in April 1985. Purchase orders for procurement of equipment for both the projects were placed by the Department of Telecommunications on the Indian Telephone Industries Limited (ITI), Bangalore in July 1985 and February 1988 respectively and equipment costing Rs.65.21 lakhs was received by the Telecommunications District Engineer (TDE), Gangtok in August 1988. The CGMT informed the TDE of Department's instructions issued in January 1989 for diversion of the MAX-I equipment to Karnataka Telecommunications Circle due to pressure from the Government of Sikkim for an electronic exchange to be allotted to its capital.

A project estimate of Rs.414.15 lakhs for installation of 2000 lines C-DOT exchange at Gangtok in replacement of the existing MAX-II was sanctioned in February 1989, and an order for the equipment was placed on ITI in February 1990. The same has not been supplied as yet (June 1990). Meanwhile, MAX-II was expanded to 1200 lines.

Of the equipment received in August 1988, that costing Rs.34.76 lakhs was despatched to Mangalore in February 1989 leaving the balance equipment costing Rs.30.45 lakhs without use at Gangtok since August 1988. Expenditure of Rs. 0.83 lakh on transportation and in-

surance of equipment from ITI Bangalore to Gangtok and back to Mangalore was thus mostly infructuous.

The CGMT stated, in July 1990, that while the decision for installation of electronic exchange for Gangtok was taken since it was a State capital, surplus equipment available there was being utilised mainly in expansion and installation of exchanges at Bankura and Burdwan coming up in the Circle. However, scrutiny of the records of the CGMT in June 1990 indicated that though nearly two years had passed after receipt of the equipment in Gangtok, no such transfer to Bankura and Burdwan had been effected.

The matter was referred to the Ministry in July 1990; reply has not been received (February 1991).

53. Avoidable payment in cable laying work

According to departmental practice, the flooding of trenches is done to detect cable sheath puncture in pressurised cable. It is not required to be done if the cable used is not of pressurised variety. In expansion of the Panipat exchange, a payment of Rs.1.63 lakhs had been made to the contractor for flooding of trenches during the period from November 1987 to April 1988, even though it was not needed to be done as only the jelly filled and unpressurised lead sheet dry core and polythene aluminium polythene cable were used in the work.

On being pointed out by Audit in February 1989, the Divisional Engineer, Telecommunication District, Karnal stated, in October 1990, that the amount would be recovered from other pending bills of the contractor.

The matter was referred to the Ministry in June 1990; but a reply has not been received (February 1991).

54. Avoidable payment of surcharge on electricity charges

The Calcutta Telephones has been incurring avoidable extra expenditure in the form of surcharge on electricity charges.

The ratio of power actually consumed to that drawn from the supply system is termed as power factor of the load. The bills for consumption of electricity issued by the Calcutta Electric Supply Corporation Limited contained a standing advice to its consumers to avoid incurring surcharge, by raising the power factor to 95 *per cent* by installing power factor correction apparatus. The power tariff contained a graded scale of surcharge for the shortfall in maintaining the requisite power factor.

During test check by Audit between March and December 1988 of payment of electricity charges by seven out of 54 telephone exchanges under the Calcutta Telephones, payment of surcharge of Rs.5.70 lakhs on account of non-maintenance of the required power factor came to notice as under:

Name of the Area unit	No. of Exchanges	No. of bills in which surcharge paid	Period of the bills	Break up of the bills by power factor			
				Below 85 *per cent*		Above 85 *per cent* but below 95 *per cent*	
				No. of bills	Amount of surcharge (Rs. in lakhs)	No. of bills	Amount of surcharge (Rs. in lakhs)
Long Distance*	2	94	Between October 1982 and June 1990	71 (73 to 84 per cent power factor)	3.85	23 (85 to 92 per cent power factor)	0.74
North**	5	115	Between March 1986 and August 1988	78 (69 to 84 per cent power factor)	0.99	37 (85 to 94 per cent power factor)	0.12
Total		209		149	4.84	60	0.86

* Power factor correction apparatus installed in 1974-75 was not functioning properly/adequately for the present load despite repairs at a cost of Rs.0.52 lakh undertaken in December 1988.

** Equipment installed in these exchanges was stated to be not capable of working at power factor in excess of 85 *per cent*. It could not attain in many months even 85 *per cent* power factor.

Apart from extra expenditure, this leads to waste of energy also.

On this being pointed out in Audit, the Superintending Engineer (Electrical) wrote to the Area Managers in August 1990 that the Electrical Wing had not been informed by the Operating Wing of the non-maintenance of the power factor necessitating payment of surcharge. He added that the

position was now being reviewed in all the exchanges to consider economic feasibility of providing the needed apparatus for maintaining the power factor. Further developments are awaited (November 1990).

The matter was referred to the Ministry in July 1990; reply has not been received (February 1991).

25 June 1991

Delhi
The

V.A. Mahajan
(V.A.MAHAJAN)
Director General of Audit
Posts and Telecommunications

Countersigned

27 जून 1991
June

New Delhi
The

(C.G.SOMIAH)
Comptroller and Auditor General of India

APPENDIX

[Referred to in paragraph 11 (v)]

Cases involving savings exceeding Rupees one crore in each case and more than ten *per cent* of the provision

Head of Account	Provision	Expenditure	Savings with percentage in brackets	Main reasons for savings
(1)	(2)	(3)	(4)	(5)
		(Rs. in crores)		
Revenue Section				
A. General Administration				
A.2(5) General Manager Projects	22.71	8.13	14.58 (64.20)	Less payments for professional and special services
B. Operation				
B.3 Telephone Revenue Accounts	31.71	28.26	3.45 (10.87)	Less payments of salaries and dearness allowance
B.5 Radio	4.09	2.52	1.57 (38.39)	Less payments of salaries, dearness allowance, travelling expenses, office expenses and rent, rates and taxes
C. Stores and Factories				
C.1 Store Depots				
C.1(2) Stores Depots	18.33	13.38	4.95 (27.00)	Less payments of professional services and other charges
C.4 Miscellaneous Expenditure	- 3.04	(-)19.76	22.80 (750.00)	Due to unanticipated rate revision and stock adjustments

D. Research and Development				
D.1 Telecommunication Research	4.02	2.44	1.58 (39.30)	Less payments of salaries and dearness allowance
E. Engineering				
E.1 Training (Engineering)	17.31	15.20	2.11 (12.19)	Less adjustments under machinery and equipment, travelling expenses and dearness allowance
E.2 Maintenance				
E.2(1) Buildings	20.00	14.39	5.61 (28.05)	Slow progress
E.4 Petty Works				
E.4(1) Telegraphs and Telex	5.42	1.79	3.63 (66.97)	Less payments on lines and wires and apparatus and plant works
E.4 (2) Local Exchanges	48.00	28.16	19.84 (41.33)	-Do-
E.4(4) Transmission	7.40	4.46	2.94 (39.73)	-Do-
E.4(6) Telecom Training Centre	9.00	6.63	2.37 (26.33)	-Do-
E.5(2) Establishment for Telegraphs	11.27	9.02	2.25 (19.96)	Less payments of salaries and dearness allowance
E.5(3) Establishment for project installations	8.39	7.24	1.15 (13.71)	Less payments of salaries

E.6	Technical and Development Circle	10.50	8.01	2.49 (23.71)	Less payments of salaries and dearness allowance
G.	Amenities to Staff				
G.1(2)	Departmental Canteens	4.00	2.25	1.75 (43.75)	Less payments of subsidies to canteens
G.1(5)	Payments under CGHS	4.28	2.59	1.69 (39.49)	Settlement of less claims of CGHS
H.	Pension				
H.4	Gratuities	24.10	16.58	7.52 (31.20)	Settlement of less gratuity cases
I.	Stationery and Printing				
I.1	Stationery and forms printing, storage and distribution	17.00	9.34	7.66 (45.06)	Lesser cost of printing and direct supply of paper from Director General, Supplies and Disposals and local purchase of paper for printing of forms
CAPITAL SECTION					
AA.1.	Telegraph and Telex System				
AA.1 (1)	Telegraph offices	29.72	10.74	18.98 (63.86)	Slow progress in construction of buildings and less receipt of equipment
AA.1(2)	Telex System	30.28	17.91	12.37 (40.85)	-Do-
AA.3	Long distance switching systems				
AA.3(2)	STD and other trunk dialling systems	24.46	7.03	17.43 (71.26)	Due to less receipt of equipment

AA.3(3)	Manual Trunk exchanges	19.19	10.74	8.45 (44.03)	Less adjustment of expenditure on lines and wires, cables and stores
AA.4	Long distance Transmission Systems				
AA.4(1)	Coaxial cable systems	163.23	84.84	78.39 (48.02)	Slow progress in construction of buildings and less adjustment of expenditure on apparatus and plants and cable stores
AA.4(2)	Other Trunk Cable systems	27.01	13.66	13.35 (49.43)	Less receipt of apparatus and plants materials and less expenditure on cables
AA.4(3)	Microwave Radio Relay systems	122.20	107.78	14.42 (11.80)	-Do-
AA.4(4)	UHF and VHF Relay systems	104.86	42.85	62.01 (59.14)	Slow progress in constructions of build ings, less receipts of apparatus and plant materials and less expenditure on cables
AA.4(5)	Open wire and carrier system	104.49	43.95	60.54 (57.94)	Less receipt of equipment and less adjustment of line stores
AA.4(6)	HF Radio systems	17.09	3.85	13.24 (77.47)	Less receipt of apparatus and plant materials

AA.4(7) Voice Frequency Telegraphy	27.32	5.01	22.31 (81.66)	Slow progress in construction of buildings, less receipts of apparatus and plant and line and wire materials
AA.4(9) Optical Fibre cable systems	70.00	52.27	17.73 (25.33)	Less expenditure on cables
AA.5 Ancillary Systems				
AA.5(2) Training Centres	6.00	4.80	1.20 (20.00)	Slow progress in construction of buildings
AA.5(4) Store Depots	3.00	1.41	1.59 (53.00)	Slow progress in construction of buildings and less receipt of apparatus and plant materials
AA.5(5) Telecommunication Factories	11.70	7.19	4.51 (38.55)	-Do-
AA.5(8) Telecom Computer Systems	15.00	3.96	11.04 (73.60)	Less procurement of equipment
AA.6 Other Land and Buildings				
AA.6(1) Administrative offices	7.00	5.78	1.22 (17.43)	Slow progress in construction of buildings
AA.6(2) Staff quarters	30.00	21.80	8.20 (27.33)	Slow progress in acquisition of land and construction of buildings

AA.7	General				
AA.7(2)	Manufactures Suspense Account	28.00	23.80	4.20 (15.00)	Due to more issues, partly offset by draw-al of more raw materials and and less on cost of mater-ials than anticipated

The savings under the above heads were partly offset by excesses under other heads of account.