HUNDREDTH REPORT

PUBLIC ACCOUNTS COMMITTEE (1986-87)

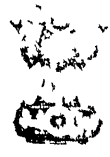
(EIGHTH LOK SABHA)

REVIEW ON WORKING

OF

CALCUTTA TELEPHONES

MINISTRY OF COMMUNICATIONS
(DEPARTMENT OF TELECOMMUNICATIONS)



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LOK SABHA SECRETARIAT
NEW DELHI

28 April, 1987/8 Vaisakha, 1909 (Saka)

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CORRIGENDA TO 100TH REPORT OF PUBLIC ACCOUNTS COMMITTEE (8TH LOK SABHA) ON "REVIEW ON WORKING OF CALCUTTA TELEPHONES".

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INTRODUCTION

I, the Chairman of the Public Accounts Committee, as authorised by the Committee, do present on their behalf this 100th Report on Paragraph 21 of the Report of C&AG 1984-85, Union Government (P&T) relating to Review on working of Calcutta Telephones.

2. The Report of the Comptroller and Auditor General of India for the year 1984-85, Union Government (P&T), was laid on the Table of the House on 7 May, 1986.

3. The Calcutta Telephones had an equipped capacity of 2.01 lakh telephone lines as on 1 April, 1980. The Department targeted an addition of 0.41 lakh lines during the period 1980-85. However, only 32,100 lines could be installed, showing an overall shortfall of 22 per cent in achieving the target. Non-availability of equipment and cables in time, theft and damage to equipment and general demoralisation of the staff in Calcutta Telephones were stated to be the factors responsible for slippages of targets, according to the Department of Telecommunications. As on 1.1.1987 a long waiting list of 35,629 registrants for new telephone connections is pending. The Committee have desired that urgent steps may be taken to revamp the administrative machinery by motivating the staff, ensuring deterrent action against the defaulting officials, and taking adequate steps to ensure that loss of Government property is scrupulously avoided.

4. The Committee have found that even out of the installed capacity, there was a shortfall in providing new connections to subscribers as per departmental standards, resulting in potential loss of Rs. 24.76 crores during the 5 years ending March 1985, due mainly to insufficiency of external network, difficulty in getting road-cutting permission, etc. However, as on 31.3.1987, 2,05,386 telephones were working as against the installed capacity of 2,39,000. The utilisation works out to 85.6 per cent. The basic norm for providing new telephone connections, once an advice note is issued, is 15 days. The Committee have desired that the planning and monitoring process should be refined so that the prescribed norm of 15 days for providing a new telephone connection is scrupulously adhered to.

5. During the period 1980-85, the number of telephones having complaints/faults have been unduly large, beyond the permissible

limits. On an average 1,20,604 telephones were having complaints per month and 67,749 remained faulty per month. It was the highest amongst the metropolitan cities. The Government have, however, mounted a special programme to significantly bring down the duration of faults. As on 25.2.87, on an average 40 per cent of faults get cleared within a day and 75 per cent are cleared within 7 days. The Committee have pointed out that public should not be forced to pay for the inefficiency of the Telephones Department. The Government should amend the rules authorising *suo motu* refund of rent to subscribers in case a telephone remains out of order continuously for a week or more.

6. The Committee have found that the rate of ineffective trunk calls and the percentage of failure of STD calls has been alarmingly high. During the 5 year period ending 1985, the Department lost revenue to the tune of Rs. 5.85 crores. In 1984-85 the STD call failure was as high as 91.6 per cent. The Committee have desired that a close watch should be kept over the performance of the trunk call operators and cases of procrastination should be dealt with firmly; and all out efforts should be made to improve the transmission media, the intervening trunk automatic exchanges and distant network.

7. The Committee have also found the average earnings per Direct Exchange Line per month (Local+STD+Trunk Revenue) were far below the fixed targets and continued to be the lowest amongst the metropolitan telephone districts during the 4 years 1980-81 to 1984-85 resulting in shortfall of revenue of Rs. 35.04 crores. As stated by the Department themselves, the targets per DEL required to be re-examined and revised and measures for upgradation of the switching system and of external plant are immediately called for.

8. The Committee are not happy at the high incidence of wrong billing of the telephone charges which varied between 10.52 and 12.98 per cent during the years 1981-84. The main reasons being spurt in metres, incorrect metre-reading and wrong punching by the data processing section. The Department had to pay out Rs. 13.35 lakhs, Rs. 6.73 lakhs and Rs. 11.64 lakhs during the years 1983-84, 1984-85 and 1985-86 respectively. The Committee have desired that steps be taken to check the malfunctioning of the equipment in the exchanges to obviate the loss of revenue.

9. The Committee have noted that the Department of Telecommunications is contemplating a multi-dimensional approach to boost the efficiency of the Calcutta Telephones by way of introduction of

modern technologies in both switching equipment and external plant etc. Efforts are also being made to improve the morale of the staff. In their perspective plan for the year 2000, the Department hope that telephone connections would be provided practically on demand. The Committee hope that all out efforts will be made to implement their plans for rehabilitating the Calcutta Telephones.

10. The Committee have suggested that the desirability of handing over the Calcutta Telephones or converting it into a Corporation may be examined by the Government.

11. For facility of reference and convenience the observations and recommendations of the Committee have been printed in thick type in the body of the Report and have been reproduced in a consolidated form in Appendix II to the Report.

12. The Committee would like to express their thanks to the Ministry of Communications (Department of Telecommunications) for the cooperation extended by them in giving information to the Committee.

13. The Committee also place on record their appreciation of the assistance rendered by the Office of the Comptroller and Auditor General of India in the examination of this Paragraph.

NEW DELHI;
April 27, 1987
Vaisakha 7, 1909 (Saka)

E. AYYAPU REDDY,
Chairman,
Public Accounts Committee.

REPORT

CHAPTER I

INTRODUCTORY

This Report is based on Paragraph 21 of the Report of the C&AG for the year 1984-85, Union Government (P&T), relating to "Review on Working of Calcutta Telephones", which is reproduced as Appendix I.

1.2 Calcutta Telephones system is the third largest telephone system in the country (next to Bombay and Delhi) and is headed by a General Manager who controls the operations and maintenance and is also responsible for formulation, execution and monitoring of planned programmes.

1.3 Calcutta Telephones serves the Metropolitan city of Calcutta and its suburbs in the States of West Bengal covering an area of 2200 sq. km. with a population of over one crore. This is the largest area served by any Metropolitan telephone system.

1.4 The first telephone exchange of the country was inaugurated in the city on 28th of January, 1882 within six years from invention of the telephone on 10th March, 1876. In 1899, a new Central exchange was installed at 1, Council House Street and it was shifted to 7, Council House Street in 1984. In 1921, the same exchange was shifted from 7, Council House Street with additional capacity (6,400 lines) to 8, Hare Street, That manual exchange was reputed as largest manual exchange in Asia.

1.5 In 1953, the first stage of Automisation scheme of Calcutta Telephones was completed. The first Director Type Auto Exchange ("24") was commissioned on 30th May, 1953, followed by "33/34" Auto Exchange in August, 1953. The Bank ("22") and City ("23") exchanges came under automatic system in 1955 then followed other Auto Exchanges in the city.

1.6 In mid 60s Pentaconta crossbar exchanges were inducted. Subsequently, Japanese Crossbar exchanges, C-400 type, were brought into the system.

1.7 Then came the "Electronic Age" in local network. On 20th of March, 1985, a 5000 line electronic local telephone exchange was

commissioned at Bidhan Nagar. This was followed by Chittaranjan-II. Main Exchange (Code-39) E-10B Local Exchange with capacity of 10.000 lines on 31st of March, 1986.

1.8 A 4000 line Electronic SPC Trunk Automatic Exchange was introduced in 1983. One SPC telex exchange of capacity 3000 lines was also introduced during 1983.

1.9 As on 30-9-1986. the position of Calcutta Telephones was as follows:—

Telephone Exchange capacity	241,700
Working Lines	205,213
Waiting List	33,402

1.10 The main problems in Calcutta Telephones are as under:—

Cable thefts

1.11 The average number of theft cases per month was 13.5 for 1983-84. 15.00 for 1984-85 and 10.75 for 1985-86.

Cable damages

1.12 Due to the shortage of space on roads there are number of cable damages as a result of digging operation by various utility services. The average cable damages per month was 572 for 1983-84, 466 for 1984-85 and 463 for 1985-86. The major factor for cable damages has been the metro rail work.

Power cuts and load shedding

1.13 The power situation of Calcutta is well known. Due to the repeated power failures air-conditioning plants of various exchanges have to be shut down. This necessitates opening of the windows causing ingress of dust which settles on the equipment causing havoc to the working of the exchange.

1.14 To overcome these problems measures have been taken as follows:—

"Coordination with police and patrolling on the roads is carried out extensively.

For cable damages utility boards have been formed in big cities/where information is exchanged for digging operations.

Continuous AC supply dedicated feeders have been planned and in most of the exchanges these have been completed by providing direct feeder from the sub-station.

The junction cables are being laid in ducts for protection against damages.

Pressurisation of cables is being implemented to detect damages to avoid break down faults."

1.15 The scheme under the title "Calcutta Project" has been framed costing Rs. 250 crores. During the 7th Five Year Plan 1985-90, investment of Rs. 250 crores is proposed to be made in Calcutta Telephones for development and modernisation of Calcutta Telephones.

1.16 The Calcutta Telephones system is headed by General Manager, Telephones, assisted by 3 Additional General Managers and 15 Dy. General Managers. The management set-up of Calcutta Telephones stands decentralised into six areas, viz. City, Central, South, North, Howrah and Long Distance. These areas are functioning under the control of live Area Managers in the rank of Dy. General Manager. All these areas have been given full powers of minor district except sanction of posts, recruitment, promotion etc.

CHAPTER II

GROWTH IN DEMAND AND SATISFACTION

2.1 The Audit Para reveals that the Calcutta Telephones had an equipped capacity of 2.01 lakh lines as on 1st April 1980 and the Department targeted a further addition of 0.41 lakh lines during 1980-85. However, it could instal only 0.32 lakh lines during the above period as indicated below showing an overall shortfall of 22 per cent in achieving the targets.

Year	Equipped capacity targeted	Equipped capacity installed
		(No. of lines)
1980-81	2000	5050
1981-82	10000	1900
1982-83	16000	2500
1983-84	7000	9550
1984-85	6000	13100
	41000	32100

2.2 The Department stated (November 1985) that the production of cables and equipment as available in the country had not been sufficient to meet the demand fully and steps were being taken to augment the production capacities in Public and joint sectors through imports to match the requirements.

2.3 Asked to state the reasons for shortfall in reaching the target for additional lines, the Department of Telecommunications stated in a note that during the 6th Plan, an increase of 41,000 additional lines was proposed in Calcutta Telephones. Among other things, the equipments and cables could not become available in time and, therefore, there were slippages and only 32,100 lines were commissioned.

2.4 To some extent, this has been inherent in the system of planning adopted where establishment of indigenous production of equipment and cables etc. is dependent on the allocations for the Department of Telecommunications in each successive Five Year Plan. It may not be out of place to mention that slippages occurred not only in Calcutta but all over the country as has been brought out in the Report of the C&AG.

2.5 Asked whether the Department could not resort to imports when it became clear that the required equipment won't be available indigenously, it has been stated that substantial imports of switching equipment and cables had, in fact, been resorted to during the 6th Plan.

2.6 In reply to another question whether this was the only reason for non-achievement of full targets in this respect or there were other reasons also, the Department of Telecommunications have stated that "While these were some of the contributing reasons, there have, in fact, been other reasons also, like general demoralisation of staff in Calcutta. In one specific case, commissioning of a 3,000 lines Exchange was delayed due to damages to equipment in transit and consequent time taken in obtaining replacement of equipment.

2.7 The Committee desired to know since how long the shortage of cable and other line stores was being experienced in the country and by what time would it be possible to meet this large shortage of the cables. The Committee have been informed that the position in regard to the cable requirements and availability indicate that there have been persistant shortages. In a situation, where the requirements are continuously expanding, the only way to ensure that there are no shortages, will be to establish adequate indigenous production in the light of a long-term perspective plan rather than on the basis of actual allocations in each Five Year Plan.

2.8 The Committee desired to know the steps now being taken to meet the situation so as to achieve self-sufficiency. The Department of Telecommunications have stated that a dialogue has been on with the Planning Commission to adopt a longer term perspective plan and advance action for setting up indigenous production. Steps have been initiated to set up adequate capacity within the country either through indigenous research and development wherever possible and through transfer of technology wherever necessary. Following specific steps are in hand:

"Indigenous technologies for switching and transmission systems being developed at TRC, ITI and C.DOT.

One factory for manufacture of Digital Electronic exchange equipment to reach manufacturing capacity of 5 lakh lines by 1988-89 has been set up. It has already supplied 28,000 lines equipment in 1985-86. The case for the second factory is being processed. But it will depend upon the availability of resources.

Licenced capacity for HCL is 65.4 LUKM out of which 30 LCKM at Hyderabad has only started limited production in 1985-86. To augment this to manufacture 51 LCKM licence has been given to 8 other units, but right now production is limited and will pick up in future.

Tender evaluation for transfer of technology for optical fibre cable at HCL/ITI is in process. An agreement is to be signed very soon.

Tender evaluation for transfer of technology for digital transmissions systems of various types is under process.

Letters of intent issued for manufacture of telephone instruments and PABX's to a number of components in Public, State, Joint and Private Sectors.

2.9 In this connection, the Committee asked about the waiting list for new telephone connections in Calcutta. The Department of Telecommunications have stated:

"35,629 as on 1-1-1987."

2.10 Asked since how long has the waiting list for new telephone connections been continuing, the Department of Telecommunications stated:

"Some applicants of 1966 are waiting in '69' exchange area of Calcutta Telephones. In exchange areas like '72', '77', '37' applicants are waiting since 1985."

2.11 The Committee desired to know the steps that are being taken to meet the backlog. In a written note, it has been stated that "In the 7th Plan, capacity is being augmented to provide additional 45,000 lines of exchange capacity."

2.12 In reply to another question, by what time this backlog is likely to be liquidated and the annual target for the next three years, the Committee have been informed:

"All applicants in the waiting list registered upto 1-4-1984 in

general are to be given telephone connections as per core plan of 7th Plan.

Target for next 3 years for new connections is as follows:

1986-87	1987-88	1988-89
6000	10,000	10,000"

2.13 Asked how far is it correct to say that the performance of Calcutta Telephones has been the lowest in giving new connections, among the metropolitan cities, the Department of Telecommunications have stated:

"Yes, it is true."

2.14 The Secretary, Telecommunications stated during evidence before the Committee that the situation regarding allotment of new connections is in a "bad shape". Asked to spell out the present situation regarding the norms prescribed for various steps involved right from the registration for new connection upto its installation, the type of problems faced/complained by the public and the steps being taken to meet this situation, the Department of Telecommunications stated in a note that the provision of telephone connections involves a whole series of steps, which have often to commence years before a telephone connection is provided. These relate to establishment of a Telephone Exchange its inter-connection with other exchanges in the local network and to the trunk network and finally a cable distribution network for connecting individual subscribers to the Exchange.

2.15 Each one of these involves detailed planning and engineering, acquisition of land, construction of buildings, obtaining power, arranging airconditioning, procurement of equipment and materials, actual installation, laying of cables, jointing etc.

2.16 Depending on whether a particular exchange is being established for the first time or is in the nature of an expansion of an existing exchange, all the above activities may be involved. Depending on the various activities involved, a scheme for commissioning an exchange and the necessary network may involve anything from 3 to 6 years from the stage of conceiving the proposal to the stage of providing telephone connections.

2.17 Strictly, if telephone connections are to be provided on demand, planning must start about 5 to 6 years in advance of the likely demand and the necessary financial and material resources should be committed.

2.18 As has been pointed out elsewhere, the present system of planning is based on five-year plans. The sectoral plan allocations generally become available only towards the end of the first year of the plan. Very often while import of equipments and materials is frowned upon, the setting up of production capacities is taken up only in the context of the firm allocation to the Department of Telecommunications and its ability to buy products. With the projects for setting up indigenous production having their own gestation period, there are delays in supplies of equipments and materials.

2.19 There are, very often, mis-matches between different types of equipments and materials, with the result, very often, the Exchange is ready and the cables and distribution system is not, or vice versa.

2.20 In a situation like Calcutta, even when the exchange is ready and some of the cables have been laid, problems do arise because of the local conditions and the frequent cable break-downs.

2.21 In general, on the commissioning of a large expansion or an entirely new exchange, advice notes are issued in bulk for all those, who have registered their demands and whose turn comes with the commissioning of the Exchange.

2.22 Thereafter, the staff carries out a survey of the availability of spare pairs and puts them through to the subscribers' promises.

2.23 In a well laid-out system, with the necessary flexibility points like cabinets and pillars, and a reasonable reliability of the cable records, it is possible to provide the necessary pair from the telephone exchange to the subscribers' premises within a reasonable time, and arrange for the connection to be provided. In Calcutta, there have been serious problems. It is this part of the problem, which is being attacked and it is hoped that situation should improve significantly within the next 2 years.

2.24 In regard to the general situation, the Department has proposed a perspective plan for the year 2,000 such that telephone connections can be provided practically on demand. Based on the projections of the past rate of growth of registered demand, it has been estimated that the country will need about 2 crore telephone connections against the existing about 32. This will involve an investment of between Rs. 45 to 50 thousand crores in next 13 years.

2.25 It will be necessary to have a reasonable commitment that the funds to this extent can be made available for investment in this sector and to start establishing the necessary indigenous production.

2.26. The Committee find that the Calcutta Telephones had an equipped capacity of 2.01 lakh telephone lines as on 1 April, 1980 and the Department targetted a further addition of 0.41 lakh lines during 1980—85 against which only 32,100 lines could be installed showing an overall shortfall of 22 per cent in achieving the targets.

2.27 Explaining the reasons for this huge shortfall in achieving the targets, the Department of Telecommunications stated that "equipment and cables could not become available in time." To some extent this has been inherent in the system of planning adopted where establishment of indigenous production of equipment and cables etc. is dependent on the allocation from the Department of Telecommunications in each successive Five Year Plan. Besides, there were other reasons like general demoralisation of staff in Calcutta. In one specific case commissioning of a 3,000 lines Exchange was delayed due to damages to equipment in transit and consequent time taken on obtaining replacement of equipment."

2.28. The Department of Telecommunications also stated that the cable requirements and availability indicates that there have been persistent shortages and, in a situation where the requirements are continuously expanding, the only way to ensure that there are no shortages will be to establish adequate indigenous production in the light of long term perspective plan rather than on the basis of actual allocations in each Five Year Plan.

2.29. The shortfall of 22 per cent in providing new telephone lines only indicates that the project planning and implementation machinery remain as weak as before. There is no logic behind laying down the schedule which cannot be scrupulously adhered to. The Committee also feel that if the Department had monitored the implementation of the project closely, identified areas of slippage and had taken timely corrective measures the targets could have been achieved. The Secretary, Department of Telecommunications stated during evidence that "during the Sixth Plan period, the slippage in our overall target was about 30 per cent or something like that." It was also brought out that there were other reasons like general demoralisation of staff in Calcutta for non-achieving of targets. The Committee cannot but view with concern this disquieting situation and would urge the Government to take urgent and effective steps to revamp the administrative machinery, by motivating the staff by taking appropriate steps and ensuring deterrent action against defaulting officials.

2.30. The Committee also note that in Calcutta, as on 1-1-1987 a long waiting list of 35,629 registrants for new telephone connec-

tions is pending. It is also disquieting to note that there were cases of theft and damage to equipment. The Government should take adequate steps to ensure that loss to Government property is scrupulously avoided. The Department has proposed a "perspective plan for the year 2000 so that telephone connections can be provided practically on demand." If this target has to be achieved it will be necessary to have a reasonable commitment of the required funds to establish the necessary indigenous production of the required equipment cables etc.

2.31. In view of the dismal state of affairs of Calcutta Telephones and the fact that the performance of Calcutta Telephones has been the lowest in giving new connections among the metropolitan cities, the Committee feel that it is imparative to have an integrated perspective plan for overall improvement on the existing lines and installation of new lines by providing concentration of resources and production, modernisation and indigenisation of equipment. The whole effort should be planned with care and executed within a time frame systematically. The Committee will like to be apprised of developments in this regard.

2.32. The Committee would like to point out that the demand on date indicating that there was a waiting list of 35629 as on 1-1-87 may not be a realistic assessment. This is another area where demand is generated by supplies. While considering the future expansion facilities the Government should take into account constraints like inefficient service, abnormal delay in getting new connection and corruption etc. due to which people may be reluctant to register for new connections. Thus improvement and efficiency in service is bound to generate more demand for new lines.

CHAPTER III

OPERATING PERFORMANCE

3.1 In this Chapter, the operational performance is dealt with in two sectors: (A) Operational Sector; and (B) Revenue Sector.

(A) *Operational Sector*

3.2 The Department have prescribed certain norms like (i) utilisation of equipped capacity. (ii) percentage of effective calls, (iii) complaints/faults per 100 stations and average duration of faults, etc., to assess the performance. A review of the performance is detailed below:

(i) *Under utilisation of the equipped capacity*

3.3 According to departmental instructions, exchange capacity should be utilised to the extent of 90 per cent soon after expansion/installation and in any case not later than 6 months of such expansion and to the extent of 94 per cent about 6 months before due date of commissioning of the next expansion. However, this was not achieved in spite of the waiting list, resulting in loss of potential revenue of Rs. 24.76 crores during 5 years ending March, 1985, (as may be seen from Table 21.3.1 in the Audit para).

3.4 Under-utilisation of capacity was ascribed to insufficiency of external network. The Department stated (November, 1985) that loading could not be achieved within the stipulated time due to various constraints like timely availability of cables, other line stores and difficulty in obtaining road cutting permission from Municipal Corporation besides normal restriction during monsoons. Also Metro Railway construction in Calcutta required repeated shifting of cables which called for resources diversion to a large extent, affecting programme of giving new lines.

3.5 It was seen in audit that non-utilisation of the equipped capacity was also due to belated execution of work orders for giving new connections. The norm fixed for giving new connections is 15 days while that for new PBXs and shifts is 25 days. Test check of 28 per cent on an average of the work orders issued (total work orders checked: 1426 out of 5044) during the period 1980—84, relating to exchanges

revealed that only 46 work orders (3.3 per cent) were executed within one month 889 work orders (62.3 per cent) were executed after a delay of one month to eleven months and 491 work orders (34.4 per cent) were executed after one year. The delay in execution of work orders was ascribed to non-availability of cable pairs. The Department stated (November, 1985) that most of the cable jointers were engaged in the task of repairing damaged and stolen cables and few were available to make pairs available for new connections by opening cabinet/ pillar joints and new distribution points on account of which there was delay in completing work orders.

3.6 The percentage fulfilment of service demands mostly relating to new connections (a) went down from 63.8 in 1980-81 to zero in 1982-83, 1.6 in 1983-84 and 2.2 in 1984-85 and (b) was the lowest among all metropolitan cities since 1981-82 (as would be evident from Table 21.3.2 of the Audit Para).

3.7 The Committee asked the Department of Telecommunications to furnish their comments on the statement in the Audit Para that in Calcutta the Telephone exchanges are under-utilised due to insufficiency of external network and the steps that have been taken to remove this deficiency. In a note furnished to the Committee, it has been stated that:—

"It is not correct that the telephone exchange existing in Calcutta are under-utilised. However, the following steps are being taken to improve the external network:

(i) There is general shortage of cables in the country and efforts are made to increase supply position.

(ii) Replacement of outlived and uneconomically maintained cables.

(iii) Laying of new junction cables (also primary and secondary cables where these are in the same route) in ducts to protect them from damages.

(iv) Pressurisation of junction, primary and secondary cables to detect damages as and when caused to avert breakdown faults.

(v) Providing Digital Microwave and POM Junction circuits to get over the problem of damage to cables.

(vi) Rehabilitation of subs' fitting and DPs and replacement of open wire lines with drop wire to minimise faults.

(vii) Providing requisite number of cabinets and pillars.

(viii) Introduction of improved telephone instruments.

(ix) Computerisation of cable records.

(x) Formation of inter-utility coordination boards to minimise damage to cables."

3.8. One of the reasons for non-utilisation of equipped capacity to the optimum level has been stated to be due to various constraints like difficulty in obtaining road cutting permission from Municipal Corporation besides normal restriction during monsoons. The Committee enquired whether the Department could not take action for obtaining permission for road cutting as soon as the cable scheme is approved and the steps that have been taken by them to minimise delays on this account. The Department of Telecommunications have stated that the Cable schemes are approved as a part of the project. It takes about 2-3 years for starting execution of the work, it is not practicable to apply for road cutting permission at that time. However, intimation is sent to Municipal Corporation then. Permission is taken just before commencing the execution of the work.

For overcoming difficulties in obtaining road cutting permission a coordination body with representative from Municipal Corporation has since been formed in Calcutta. Blanket permission is obtained from Municipal Corporation during monsoon for cutting the roads for maintenance.

3.9 Asked to explain in detail the type and functions of this coordinating body, the Department of Telecommunications have stated that the co-ordination committee of utility agencies covering the Calcutta Municipal Corporation and Howrah Municipal areas was formed by the Government of West Bengal under the Director General, Calcutta Metropolitan Development Corporation on 28th February, 1979. The Appex body and the Zonal cells of the Committee used to consider the programme of digging activities of the various utility services for their development programmes. There is blanket ban on digging of roads for development activities of the utility agencies during the monsoon periods, i.e., from June to November, No permission is required from the Coordinating Committee for diggings for connection maintenance/fault restoration works.

After the Calcutta Municipal elections the work of co-ordination is being done by the Calcutta Municipal Corporation in the Calcutta Municipal areas under the Chairmanship of Commissioner Calcutta Corporation since 22-1-86.

3.10 As brought out in the Audit Para, the Department of Telecommunications have stated that the delay was also attributable to the fact that most of the cable jointers were busy in connection with the repairing of damaged cables. The Committee, therefore, enquired whether the Department have got separate wings for maintenance and laying of the cables and how the maintenance work affects the laying of new pairs of cables. The Department of Telecommunications have stated that there are separate groups for maintenance and installation of cables. Normally these works are done independently. This is almost totally practicable in case of junction cables, primary cables and secondary cables where the two areas are very clearly defined. But in case of distribution cables and distribution points the maintenance and installation are under the same charge and the priority shifts from one to the other depending upon the situation.

While in other telephone districts the maintenance and installation are to a larger extent independent of each other, the situation in Calcutta is quite different due to numerous thefts, damages to the cables and non availability of full flexibility arising out of absence of cabinets and pillars, on sizeable part of the network. These are now being installed. In Calcutta too much of maintenance effect required does affect the progress of installation work.

3.11 The Committee enquired whether like other Telephone Districts, maintenance and installation wings are required to be segregated in Calcutta. The Department of Telecommunications have explained that in fact, in Calcutta Telephones too, maintenance and major installation wings are segregated.

However, over the years, due to high incidence of thefts, abnormal number of damages and severe catastrophic failures during the monsoon, installation staff have had to be diverted for maintenance work.

The major problem in regard to provision of telephone connections and utilisation of the exchange capacities has not so much been the non-availability of staff as the problem in regard to keeping track of cable records and finding the spare pairs.

This situation has arisen due to rather frequent damages to cables on the one hand and absence of cabinets & pillars on the other.

Action is in hand to improve the situation in this regard.

3.12 It is seen from the Audit para (*vide* Table 21.3.2) that the percentage fulfilment of service demands relating to new connec-

tions (i) went down from 63.8 in 1980-81 to zero in 1982-83 and (ii) was the lowest among all the metropolitan cities since 1981--82. The Committee enquired the circumstances under which new connections could not be provided. The Department of Telecommunications have stated that low service demand fulfilment percentage does not mean that the demand was not met. It means that it could not be met within one month. New connections could not be provided to the extent of the targets due to various constraints, like non-availability of cables and other line store. It was also due to metro railway construction work which required repeated shifting of cables due to large scale digging and consequent diversion of substantial resources to this work affecting the programme of giving new connections.

3.13 The Committee enquired why the satisfaction of service demand happened to be the lowest among all the metropolitan cities. The Department of Telecommunications have stated that the reasons lie mainly in the external plant network, the condition of which has been explained in the earlier paras.

3.14 The Committee enquired, to what extent the low percentage of demand fulfilment could be attributed to administrative and organisational deficiencies. The Department of Telecommunications have stated that the basic norm for providing a telephone connection, once an advice note is issued, is 15 days. The percentage of telephone connections that could be provided within this norm in Calcutta came down steeply.

This occurred due to rather steep increase in the damages to the cables and consequent difficulties in maintaining the records of spare pairs available.

Deficiency in providing cabinets and pillars also contributed to the delays.

To some extent, cable ducts had not been planned, cabinets and pillars had not been provided. It can be stated that there has been planning deficiency. This problem, however, arose substantially due to inadequate financial and material resources and an effort to provide services to the maximum number of people within the limited resources.

A lesson has been learnt and it is the intention to ensure all steps necessary for quality and reliability of service.

3.15 The Committee enquired about the present position of utilisation of the equipped capacity. The Department of Telecommunications have stated there:

> "The equipped capacity of Calcutta Telephone District is 2,39,900 and the working connections are 2,05,386 as on 31-5-1986. The utilisation thus works out to 85.6 per cent."

(ii) *Fault repair service and complaints*

The Audit para has highlighted (*vide* Table 21.3.3) the permissible number of complaints/faults per 100 stations, per month, fixed for the years 1980—85, and the actual performance. It has been concluded that on an average 1,20,604 telephones were having complaints per month and 67,749 remained faulty per month. Even after allowing the permissible limits of complaints/faults fixed by the Department, 28,056 telephones were having complaints in a month and 10,579 telephones remained faulty in a month.

The Audit para has further pointed out (*vide* Table 21.3.4) that the average duration of faults per month compared with the permissible limit of average duration was very high in all the years 1980—85 and was the highest amongst all metropolitan districts.

The average duration of faults was in excess of the prescribed limits of the Department ranging from 129 per cent to 338 per cent during 1980-81 to 1984-85.

The Committee, therefore, enquired why a large number of telephones remained faulty and why there were large number of complaints. In their note, the Department of Telecommunications have stated that:

> "The number of complaints and faults are not unduly large considering the inadequacies of external plant of Calcutta Telephones. It is true, however, that rectification of faults takes long time primarily in areas which are not served by cabinets and pillars. provision of cabinets and pillars is a standard item of external plant which provides flexibility and ease for fault rectification. Programme for providing these is under way."

The Committee enquired whether the plant system in Calcutta is different from other metro cities. The Department of Telecommunications stated:

"Yes. The external plant in Calcutta is different in the following points:

(i) Road surface being very much less than other metro cities all the underground services like, electric cables, water pipes, sewerage pipes, gas pipes, communication links of tram company etc. are all clustered in limited space presenting difficulties in installation and maintenance.

(ii) Damages are very high to the cables due to the above reason and with the addition of extra joints the cable network is very fragile.

(iii) Cable network is very old as compared to other metros.

(iv) Lack of sufficient number of Cabinets & Pillars in certain areas.

(v) Incidence of thefts of cables and cable accessories is very high as compared to other metros.

Asked to state the remedial action taken to bring down the number of faults/complaints so as to give an efficient, less fault prone service to the public at large, the Department have stated that:

"The following steps have been taken to improve the performance and bring down the number of faults/complaints (as on 31-3-1986) :

(i) 1080 Kms. of underground cables have been pressurised.

(ii) 250 Kms. of underground cables have been laid in ducts.

(iii) 147 number of POM systems have been installed.

(iv) 31.59 Kms. of badly damaged and old cables have been replaced.

(v) 481 Nos. of cabinets and pillars have been added in the cable network.

(vi) 15 (9 normal plus 6 stand by) Digital Microwave and 6 UHF (3 normal plus 3 stand by) system have been commissioned to serve as inter exchange junction circuits.

(vii) Electronic Trunk Auto Exchange of 4000 lines has been commissioned.

(viii) 10000 lines of E. 10B digital electronic exchange have been commissioned."

The Committee enquired whether any appreciable improvement had resulted consequent to the above-mentioned steps. The Department of Telecommunication stated:

> "Yes, please. Complaints have come down from 44.6/100 stations in 81-82 to 37.6/100 stations in 85-86. Faults have come down from 26.5/100 stations in 81-82 to 20.1/100 stations in 85-86 and duration of faults have come down from 67.4 hours in 81-82 to 33.9 hours in 85-86."

The Committee also enquired about the time normally taken to set right the majority of complaints. The Department of Telecommunications stated that "on an average 40 per cent of the faults get cleared within a day and 75 per cent are cleared within 7 days. More than one week pending faults have been brought down from 8000 three months ago to about 700 now (dated 25-2-87)."

Asked about the nature of complaints in general, the Department of Telecommunications stated:

> "Complaints are generally made on the following:
>
> — Telephone dead/out of order
> — Bell not ringing properly
> — Not getting incoming calls
> — Not getting outgoing calls
> — Dial sticky or not rotating
> — Getting wrong numbers
> — Extension instrument not working
> — speech low
>
> A special programme has been mounted to significantly bring down the duration of faults. Areawise analysis of long pending faults is being undertaken and special parties pressed into service to see that such faults are removed on priority.
>
> With the recent success in reducing the faults, there is a significant improvement in the morale of the staff and it is hoped that this will be maintained."

The Committee enquired whether some telephone subscribers had filed writ petitions in the Courts regarding malfunctioning of the Calcutta Telephones; if so, the main grounds pleaded in those writ petitions and the present position on these writ petitions in the Courts. The Department of Telecommunications stated that "writ applications are moved in the Calcutta High Court against Calcutta Telephones mainly on the following grounds :—

(a) Delay in restoration of telephones/telex lines interrupted due to cable fault.

(b) Alleged excess charging in telephones/telex bills.

(c) Challenging disconnection of Telephones/Telex lines due to non-payment of bills.

(d) For immediate installation of new telephone/Telex connections and shifts disregarding normal priorities.

(e) Unauthorised use of Telephones and disconnection/recovery of such connections.

(f) Re-erection of Telephone/Telex lines permanently recovered due to non-payment of dues.

(g) Challenging telephones/telex tariff and also different telegraph rules framed by the Central Government under section 7 of the Indian Telegraph Act.

(h) Alleged delay in provision of new connections and shifts due to obstructions/objections given by the landlords etc.

(i) Demanding refund/adjustments of rental for interruption of any length.

The position of the court cases has significantly improved during the recent past in as much as not only the incidence of court cases has come down considerably but also the directions of the Hon'ble court are going mostly in favour of the Department. Large number of cases are being disposed of on the date of first hearing itself. There are about 1900 writs pending in Calcutta High Court."

(iii) *High percentage of ineffective calls*

The Audit Para reveals that the number of ineffective trunk calls, the failure on S.T.D. calls and of the inter-exchange calls is the highest in Calcutta. It has been stated that:

(i) The Department lost revenue of Rs. 5.85 crores due to ineffective trunk calls during the five years ending 1985.

(ii) The percentage of failure on STD calls per month in the National trunk dialling service ('O' level) was the highest in Calcutta amongst metropolitan cities and the percentage of failure during 1984-85 was 91.6 against 40 prescribed by the Department.

(iii) The percentage of failure of inter-exchange calls was also the highest in Calcutta Telephones and was 861 per cent above the prescribed targets.

The Committee enquired how the Department of Telecommunications would meet the contention of audit that (i) they lost Rs. 5.85 crores due to ineffective trunk call during the five years ending 1985; and (ii) high incidence of ineffective calls was due to departmental failure which had risen from 30 per cent in 1981-82 to 37 per cent in 1983-84. The Department of Telecommunications stated that:

"There is no doubt that ineffective trunk calls do result in loss of potential revenue. Not only is there a direct loss to the extent that a calls booked has been ineffective and, therefore, no revenue could be earned, but also it discourages booking of more calls.

There is no doubt that there is a significantly greater potential for increasing the revenue from trunk calls if the effective percentage could be improved.

In 1985-86, a group target for effective trunk calls for the Metropolitan Districts was 67.9 and for Calcutta it was 57.0. The actual achievement in Calcutta was 53.7."

The Committee desired to know the steps taken by the Department to reduce the number of ineffective trunk calls and the results achieved in this direction. The Department of Telecommuncations stated that steps to improve the situation in this regard are:

(i) About 70,000 lines of outlived exchange are being replaced which contributed to ineffective trunk calls. (10,000 lines equipment replaced by an E. 10B in March, 1986 and another 10,000 lines have been replaced in August, 1986).

(ii) Direct junctions have been provided from '26' and '29' C-400 exchanges so that the subscribers of these and other local exchanges are accessible to trunk operators without going through old strowger type trunk chain which has so far been responsible for poor performance.

(iii) Direct access from Trunk position to SPC TAX has been provided from 1985 and trunk efficiency has shown improvement.

The Department of Telecommunications further stated that:

"Another significant reason is that a large number of calls to manual exchanges in the West Bengal Circle. Maturity of calls to such stations depends upon two operators which brings in delays.

Trunk circuits to small stations within West Bengal are mostly in overhead lines and these are less reliable than coaxial or microwave circuits. This is another reason for lower efficiency of trunk calls to stations within West Bengal.

Automatisation of manual exchanges and installation of more reliable media are plan programmes and will be progressively implemented subject to availability of resources.

Recently an incentive scheme for trunk telephone operators has been introduced effective from July, 1986. This is expected to increase the number of effective calls."

The Committee enquired about the extent of improvement noticed as a result of the incentive scheme introduced since July, 1986. The Department of Telecommunications stated "the incentive schemes was introduced in July 1986. Due to agitation of the Junior Engineers the circuit availability during the months of August to November 1986 was very poor and trunk efficiency was poor. During the month of December 1986 the effective percentage was 55.6 per cent."

Asked about the additional revenue earned, the Department of Telecommunications stated that:

"The effect of introduction of incentive scheme has not yet been felt."

Asked to state the extent of incentive paid to the Telephone Operators, the Department of Telecommunications stated:

"So far no incentive money has been paid to any Trunk Operator."

The Committee asked the Department of Telecommunications furnish their comments on the Audit observations that the percentage of

STD call failure has been the highest in Calcutta amongst the metropolitan cities and that the percentage failure was 91.6 in 1984-85 Asked to explain the reasons for this high failure percentage, the Department of Telecommunications stated that:

"The STD call failures are a symptom of the overall condition of the network. To the extent, the local Calcutta Telephone System has been subject to various problems. It has also been reflected in the STD calls. In addition, the STD call success also depends on the transmission media, the intervening trunk automatic exchanges and the distant network.

An all-out effort is being made to improve the network as a whole. Particular attention is being paid to the trunk automatic exchanges and the transmission media. A crash programme of upgrading the performance of the existing trunk automatic exchanges has been launched. It is proposed to instal only digital electronic trunk automatic exchanges in future.

In regard to the transmission media, it is proposed to introduce suitable regulation equipment as well as performance surveillance equipment to enable trunks which are giving trouble, being busied out. The call/completion rates during the recent months in 1986 are as follows:

September, 1986	21.5 per cent
October, 1986	23.3 per cent
November, 1986	24.3 per cent
December, 1986	27.6 per cent"

In another note furnished to the Committee the Department of Telecommunications stated that:

(i) The performance of Penta-conta TAX at Calcutta had been inferior to that of TAXs at the other three Metro Cities;

(ii) The local exchange equipment in service at Calcutta is comparatively older than the equipment provided at other Metropolitan cities. About 70,000 lines are due for replacement due to expiry of life;

(iii) Local inter-exchange call failure is high because of the fact that constant digging of roads at Calcutta is going on because of:

(a) Metro railway project has resulted in mass scale displacement, replacement and faults in the cables.

(b) Road area is hardly 6 per cent of the city area against 15 per cent to 20 per cent in other Metro Cities. This makes the cable net work susceptible to damages."

The Committee also enquired the reasons why the failure of inter exchange calls and local exchange in Calcutta Telephones was far above the control limit for metropolitan group and was worst amongst four metropolitan group and also desired to know the remedial steps taken to give better service. The Department of Telecommunications stated that:

"To reduce failure of inter-exchange calls, the following steps have been taken:

(i) Ducting: Cables laid inducts would be free from external damages by other utility services during their digging operations.

(ii) Replacing old cables with new ones;

(iii) Pressurisation of junction cables to detect damages as and when caused. This minimises cable breakdown faults.

(iv) Installation of PCM systems and UHF radio links for interexchange junction circuits;

(v) Replacement of outlived telephone exchanges by electronic exchanges."

(B) *Revenue Sector*

(i) *Average revenue per Direct Exchange Line (DEL) per month.*

The Audit para has revealed, through the following table, that the average earnings per DEL per month (Local) plus STD plus Trunk Revenue) were far below the targets fixed for Calcutta:

Year	Group target (per DEL)	Actual earnings (per DEL)	Short-fall per DEL per month	Average No. of DELs	Shortfall (Rupees in crores)
	Rs.	Rs.	Rs.		Rs.
1981-82	280	196	84	1,77,150	17·86
1982-83	330	275	55	1,82 144	12·02
1983-84	290	271	19	1,86,180	4·24
1984-85	305	301	4	1,92.030	0·92
					35·04

The Committee asked the Department of Telecommunications to explain the reasons for shortfall in revenue per DEP compared with the targets. The Department of Telecommunications stated that the revenue per DEL has been slowly increasing. The targets will require to be re-examined and revised. The revenue per DEL, showing an improvement from 1982-83 onwards, is given below:

Year	Revenue/DEL
1982-83	275
1983-84	271
1984-85	301
1985-86	313

Asked whether this shortfall could be attributed to the faults/ complaints in excess of prescribed target, the Department of Telecommunications stated:

> "Yes, to a certain extent they can be attributed to the long duration interruption in service."

The Committee also enquired about the manner in which the department propose to make up the shortfall in the coming years, the Department of Telecommunications stated:

> "Revenue targets will have to be revised taking into account the situation. However, the following measures are taken,:
>
> (i) Upgradation of switching system i.e. replacement of strowger switching equipment by electronic exchanges;
>
> (ii) Upgradation of external plant i.e. cable duct construction, erection of additional cabinets and pillars, provision of inter-exchange junctions on digital microwave/optical fibre media/PCM channels."

The Committee enquired why the group targets of revenue per Direct Exchange Line for the years 1983-84 and 1984-85 were fixed as Rs. 290 and Rs. 305, respectively, inspite of the fact that there was revision of telephone tariff and the group targets for the year 1982-83 were Rs. 330 per Direct Exchange line. The Department of Telecommunications stated that the targets of revenue upto the year 1982-83 were fixed by grouping together units of comparable size viz. all the four Metro Districts were assigned revenue targets as a single group. However, from 1983-84 onwards there was a change in grouping units of comparable size together the units were grouped on the

basis of their geographical location. For example, East area comprising of telephone districts of Calcutta, Kanpur Agra, Gauhati, Patna, etc. were assigned a different target. The revised methodology adopted from 1983-84 accounts for the differences in revenue targets for the year 1983-84 and 1984-85 compared to 1982-83.

The Committee enquired why the actual revenue earned per Direct Exchange line in Calcutta is the lowest of all metropolitan cities inspite of the fact that Calcutta has more industry as compared to Delhi and Madras. The Department of Telecommunications stated that "This is not a new phenomena. The revenue in Calcutta telephones has remained the lowest compared to other Metro/Districts because of lower business trade and industrial activity. The percentage of subscribers making only the free allowance calls has been the highest for several decades among the metro and major cities."

In reply to some further questions, the Department of Telecommunications stated that "There can be many factors contributing to the low revenue per direct exchange line in case of Calcutta. These relate to:

(a) Some what sluggish economic activity in Calcutta compared to other major metropolitan cities. This is reflected, to some extent, in the fact that in Calcutta about 66 per cent of the subscribers make local and STD calls within the free call limits, compared to about 25 per cent only in other metropolitan cities.

(b) Unsatisfactory performance of the Calcutta Telephone network, and the high call failure rates naturally discourage traffic."

(ii) *High ratio of operating expenses*

The Audit Para has brought out (in Table 21.3.9) that the operating ratio-which is an indicator for overall economic operation of a unit—was the highest for the Calcutta, Telephones, amongst the metropolitan cities, except during 1984-85. The Department had attributed it to sluggish economic growth in the whole of Eastern Region, including Calcutta, and also highest maintenance cost. The Committee therefore enquired about the action taken to bring it down. The Department of Telecommunications stated that "Comparatively lower revenue accounts for high operating ratio for Calcutta Telephones. Various measures for improving the service at Calcutta have been given in

earlier paragraphs and as these are getting implemented, the service and, consequently the revenue is improving, as is already discernible from the trends."

Asked whether any specific studies had been undertaken to study the phenomenon of low revenue earning and high operating ratio in Calcutta, the Department of Telecommunications replied in the negative.

(iii) *High incidence of cancellation of bills*

The Audit para has stated that the Departmental rule prescribe that complaints pertaining to excess local charged should be investigated, disputed bills should be checked and revised bills issued wherever necessary. It was not in Audit that the percentage of such cancelled amounts varied between 10.52 and 12.98 during the years 1980—84 as detailed below:

Year	Amounts of bills issued	Amount of bills cancelled	Percentage
	(Rs. in lakhs)		
1980-81	3777·36	449·73	11·91
1981-82	4382·51	569·90	12·90
1982-83	5568 30	586 04	10 50
1983-84	5871 12	720 43	12 27

A test check of cancelled bills by audit revealed that they were due to (i) spurt in the meters (ii) incorrect meter readings and (iii) wrong punching by data processing section.

Cancellation of bills arises on the basis of complaints regarding excess billing. Since complaints from the subscribers are not expected to originate for any under charge, short charge in the bills due to low metering, wrong punching etc., is likely to remain undetected causing leakage of revenue.

The Department stated (November 1985) that as regard short charge, meters are tested for their correct function in every cycle period for which 10 calls are allowed free to the subscribers. As regards wrong punching, it was staying that to ensure correctness of billing, provision already exists for hundred percent verification of all punched cards by separate set of verifiers.

The fact remains that inspite of the above safeguards the incidence of cancellation of bills is still high.

The Committee enquired about the kind of billing complaints received by the Calcutta Telephones and the machinery which has been established to meet these complaints. The Department of Telecommunications stated that bulk of the complaints in regard to billing relate to suspected excess metering on account of STD calls. At present, STD calls are charged through periodic metering on the subscribers' local call meters. Facilities are not available for obtaining the details in regard to the number called, the time the call was made, and the duration of the call. There is no arrangement also for warning the calling subscriber of the time elapsed.

There is thus a problem that, very often, the subscribers making STD calls are not able to fully gauge the duration of the call and the charges incurred.

When the bills are received, they suspect that there has been excess metering.

To handle the complaints, the following arrangements have been made:—

(i) on receipt of the complaint, an investigation is made in the exchange to check the operation of the meter;

(ii) even though the bills are issued once in two months, fortnightly meter readings are taken. On receipt of a complaint, a reference is made to these meter readings and it is determined whether there had been a spurt in the meter readings in a particular fortnight, or whether the meter readings was uniformly distributed. Enquiry is also made from the subscriber if there had been any special occasion which could have led to excessive use of the STD facility.

In the light of all these studies, a judgement is made by the officer in the first instance, the Divisional Engineer (Indoor) as to whether the meter reading is justified, or whether there is justification for a rebate because of a possible mal-operation. A decision is conveyed to the subscriber.

If the subscriber is not satisfied, he can appeal to the Area Manager and the Addl. General Manager (Operations).

To bring more credibility in this regard, arrangements have been made for development of automatic meter observation equipment. In case of frequent complaints, a subscriber's line can be placed under observation for metering. The equipment provides a statement of the called number, the time the call was made, and the meter units recorded.

With this equipment, observations can be made on a limited number of selected lines.

Development work is in hand which will enable recording of the details of STD calls for all subscribers, if needed.

3.44 In reply to a question during evidence before the Committee it was stated that the number of cases of rebate in respect of local call and STD call in Calcutta is very high and the reason attributed therefore is generally spurt in meters. The Committee enquired the extent of such rebate being granted every year, during the last three years. The following figures have been given by the Department of Telecommunications:

"1983-84	:	Rs. 13.35 lakhs
1984-85	:	Rs. 6.73 lakhs
1985-86	:	Rs. 11.64 lakhs"

3.45 In reply to another question, the Department of Telecommunications stated that it is not possible to completely eliminate the spurts. Equipment in the exchanges malfunctions occassionally and under certain conditions spurts would occur. There are maintenance routines to keep the mal-functioning to the barest minimum. Instructions regarding this are reiterated from time to time to ensure their observance. Supervision is exercised to ensure the same.

3.46 The Committee desired to know the R&D effort being made to eliminate/reduce the spurt in meters. The Department of Telecommunications stated that detailed investigations have been undertaken in regard to the working of the various parts of the network to eliminate a spurt in meter readings.

As a permanent solution, development work is on for making it possible to obtain detailed records of all STD calls, indicating the time the call is made, the number called, and the duration of the

call. This facility is already in the E-10-B Digital Exchanges, and, as an experimental measure, detailed statements of STD calls are being supplied to subscribers in such exchanges. In due course, it is proposed to provide facilities for such detailed statements of STD calls being made available to all subscribers on payment of a nominal fee.

With this, the problem in regard to excess billing complaints should reduce significantly.

3.47. As per Audit Paragraph, even out of the installed capacity there was a shortfall in providing new connections to subscribers as per departmental standards, resulting in potential loss of Rs. 24.70 crores during the 5 years ending March, 1985. The under-utilisation has been attributed mainly to insufficiency of external network, difficulty in getting road cutting permission etc.

3.48. The Committee are pained to find that while on the one hand the waiting list for new connections had been getting longer each year, on the other hand the spare unutilised capacity had also been increasing. This led to loss of potential revenue. The Department had stated that due to the shortage of cables and other associated material, there was under utilisation of capacity. This leads to the inevitable conclusion that planning and monitoring of the scheme was faulty and tardy. The Committee would urge the Government to see that there are no shortages in the execution of work and stores requirement are planned in advance so that work orders are executed efficiently within the prescribed time schedule rsulting in optimum utilisation of capacity.

3.49. The Committee, however, note that as on 31-5-1986, 2,05,386 telephones were working as against the installed capacity of 2,39,900. The utilisation, thus, works out to 85.6 per cent.

.3.50. The Committee also find that the percentage of fulfilment of service demand for providing new telephone connections dwindled from 63.8 per cent in 1981-82 to nil in 1982-83 and to 2.2 per cent in 1984-85. The Department of Telecommunications have stated that "the basic norm for providing a new telephone connections, once an advice note is issued, is 15 days. The percentage of telephone connections that could be provided within this norm in Calcutta came down steeply." This, according to the Department, occurred due to rather steep increase in damages to the cables and consequential difficulties in maintaining the records of spare pairs available. Deficiencies in providing cabinets and pillars had not been attended to. The Department of Telecommunications have admitted that "there

has been a planning deficiency..... A lesson has been learnt and it is the intention to ensure all steps necessary for quality and reliability of services".

3.51. The Committee desire that the planning and monitoring processes should be refined so that the prescribed norm of 15 days for providing a new telephone connection is scrupulously adhered to.

3.52. The fact that the percentage satisfaction for service demand was 2.2 per cent in Calcutta in 1984-85 as against 67.7 in Delhi and was the lowest among the metropolitan cities in India is indeed a sad commentary of the working of Calcutta Telephones. The Committee find it imperative that urgent steps are taken to improve the existing dismal state of affairs.

3.53. The Audit Para points out that in the past few years (1980-85) the number of telephones having complaints/faults has been unduly large, beyond the permissible limits. On an average 1,20,604 telephones were having complaints per month and 67,749 remained faulty per month. Even the duration of the faults has also been in excess of the prescribed limits of the Department, ranging from 129 per cent to 338 per cent during 1980-81 to 1984-85. It was the highest amongst the metropolitan cities.

3.54. The Department of Telecommunications stated that "the number of complaints and faults are not unduly large considering the inadequacies of the external plant of the Calcutta Telephones. It is, however, true that rectification of faults takes long time." The Department have since taken steps to bring down the number of complaints. As a result of these steps the number of complaints has come down from 44.6/100 stations in 1981-82 to 37.6/100 stations in 1985-86 and faults have also come down from 26.5/100 stations in 1981-82 to 20.1/100 stations in 1985-86, and the duration of faults have come down from 67.4 hours in 1981-82 to 33.9 hours in 1985-86.

3.55. The Committee note that as on 25-2-87, on an average, 40 per cent of faults get cleared within a day and 75 per cent are cleared within 7 days. More than one week pending faults have also been brought down "from 8000 three months ago to about 700 now". A special programme has been mounted to significantly bring down the duration of faults. Special parties are pressed into service to see that long pending faults are removed on priority. There is also significant improvement in the morale of the staff and "it is hoped that this will be maintained." One of the reasons given for unsatisfactory functioning of telephones and a large number of complaints in Calcutta as compared to other metropolitan cities is the difference in external plant due to narrow road surface, damages to cables, old

cables network, lack of cabinets and pillars, etc. The Committee urge that Government to look into these problems with due promptitude and take effective remedial steps to plug these loopholes. The Committee would be interested to know further developments in this regard.

3.56 The Committee were informed during evidence that "in the case of Calcutta, recently on experimental basis, we have issued an order that if a telephone is out of order for 15 days or more, we give a rebate. It is exclusively for Calcutta. It is not yet available to the rest of the country". Secretary, Telecommunications, further stated "as a matter of fact, we are considering even reducing it to one week. It required amendment of the Indian Telegraph Rules". He further observed "as a matter of fact, I am pursuing through my General Manager that this refund should be automatic". The Committee is of the view that the public should not be forced to pay for the inefficiency of the Telephones Department and that the Government should amend the rules authorising suo motu refund of rent to subscribers in case of telephones remaining out of order continuously for a week and more. The Committee should be apprised of further developments in this regard.

8.57. Another disquieting feature noticed by the Committee is the high rate of ineffective trunk calls. During the five years period ending 1985, the Department lost revenue of Rs. 5.85 crores. Even "in 1985-86 a group target for effective trunk calls for the Metropolitan Districts was 67.9, but for Calcutta it was 57.0. The actual achievement in Calcutta was still less—53.7". The ineffective trunk call not only results in loss of potential revenue but also causes nagging hardship to the public and discourage booking of more calls. The situation needs immediate attention and close monitoring measures in improving trunk call facilities to avoid loss of potential revenue to the exchequer. The Committee have also been informed that an incentive scheme has been introduced in July 1986 to reduce the number of ineffective trunk calls. While welcoming this step, the Committee feel that it is essential to keep a close watch over the performance of trunk call operators and all cases of procrastination should be dealt with firmly.

3.58. The Committee are also concerned at the high percentage of failure of S.T.D. calls, which is regrettably the highest amongst the metropolitan cities. It was an alarmingly high percentage of 91.6 in 1984-85. This high percentage of failure is symptomatic of the dismal state of affairs of Calcutta Telephones. All out effort needs to be made to improve the transmission media, the intervening trunk automatic exchanges and the distant network.

3.59. The Committee note that a crash programme of upgrading the performance of the existing trunk automatic exchanges has been launched and it is proposed to instal only digital electronic trunk automatic exchanges in future. The Committee hope that concerted efforts would be made to improve the percentage of effective S.T.D. calls and the Government would closely monitor the progress in the implementation of these schemes.

3.60. The Committee find that the average earnings per Direct Exchange Line per month (Local+STD+Trunk Revenue) were far below the fixed targets and continued to be the lowest amongst the metropolitan telephone districts during the four years 1981-82 to 1984-85, resulting in shortfall of revenue of Rs. 35.04 crores. Among other reasons, for this shortfall in revenue, the Department have attributed this to "long duration interruption in service. Unsatisfactory performance of Calcutta Telephones network and the high call failure rates, naturally, discourage traffic." The revenue earned in Calcutta Telephones has remained the "lowest compared to other metro districts because of lower business, trade and industrial activity. The percentage of subscribers making only the free allowance calls has been the highest for several decades among the metro and major cities. In Calcutta about 66 per cent of the subscribers make local and S.T.D. call within the free call limits, compared to 25 per cent only in other metropolitan cities."

3.61. As stated by the Department themselves, the targets per DEL "will require to be re-examined and revised taking into account the situation", and "measures for upgradation of switching system and of external plant are being taken". The Committee would like to be apprised in due course of the results of these measures. In this connection, the Committee note that the revenue per DEL has shown improvement from 1982-83 onwards (being: 1982-83 275, 1983-84 271, 1984-85 301, 1985-86 313).

3.62. The Committee are not happy at the high incidence of wrong billing of the telephone charges. The percentage of such wrong billing varied between 10.52 and 12.98 during the years 1980—84. These wrong billings occurred mainly due to spurt in meters, incorrect meter readings and wrong punching by the data processing section. The Calcutta Telephones have been paying rebate to the consumers on account of spurt in meters and sums of Rs. 13.35 lakhs, Rs. 6.73 lakhs and Rs. 11.64 lakhs were paid, respectively, in the years 1983-84, 1984-85 and 1985.86.

3.63. While the Committee realise that it may "not be possible to completely eliminate the spurt" in meters, malfunctioning of equip-

ment in the Exchange needs to be checked at regular intervals so that spurts in meters are avoided which would obviate loss of revenue due to low metering, wrong punching, etc. Substantial reduction, if not total elimination of the wrong billing will improve the credibility of the Telephones Department.

CHAPTER IV

MEASURES FOR EXPANSION, UPGRADATION AND MAINTENANCE OF THE SYSTEM

(i) *Targets/works undertaken for expansion of Telephone lines.*

4.1 The Audit Para has brought out that based on the anticipated demand for new telephone connections, six major projects costing over Rs. one crore each were sanctioned at an estimated cost of Rs. 24.31 crores (vide Table 21.4.1). In addition 12 smaller projects costing less than Rs. one crore each were also sanctioned at an estimated cost of Rs. 6.77 crores.

4.2 A review of 5 major projects by audit showed that 4 of the five major projects (estimated cost: Rs. 14.56 crores for 18600 additional lines) were commissioned with delays ranging from 5 to 46 months and excess expenditure over estimated cost in 3 cases was Rs. 456.04 lakhs, the excess ranging from 32 per cent to 93 per cent (vide Table 21.4.1).

4.3 The delay in commissioning of the projects was ascribed by the Department to (a) non-receipt/diversion of equipment (b) shortage of installation staff (c) frequent load shedding and (d) unsatisfactory civil works.

4.4 The Committee enquired why the Department frequently resort to diverting part of the equipment from one place to another and whether it did not dislocate the work at both places. The Department of Telecommunications stated that:

> "Diversion of equipment is resorted only in exceptional cases where the equipment can be put to more effective use in an earlier time frame."

4.5 One of the reasons given by the Department for delay in commissioning of the exchanges is the unsatisfactory civil works. The Committee enquired whether the civil works were being executed by the Civil Engineering Wing of the Department and if so, whether the Department had control over its functioning. The Department of Telecommunications stated that:

"Yes, the works are executed by the Civil Engineering Wing of the Department. The Department has full control over the functioning of the Civil Wing. The delay in commissioning of '31' exchange was not significantly due to civil works as compared to the totality of the other factors."

4.6 In reply to another question about reasons for non-completion of the civil works for expansion of telephone lines, the Department of Telecommunications stated that:

"There were five reasons leading to delayed commissiong of the '31' exchange. One of the reasons is with regard to the civil works which in this case were additions, alterations and repair of existing accommodation in '34' exchange building where the '31' exchange was to be accommodated. These were mainly flooring and repair of battery and switch rooms and erection of partition walls between the existing exchange and proposed exchange switch rooms. As these had to be carried cut in a working exchange causing the least disturbance and creation of dust etc. it took longer time as these had to be done very cautiously. These works were not hurried up lest they should deteriorate the performance of working exchange."

(ii) *Old Strowger exchanges*

4.7 Strowger exchanges represent the oldest system of telecommunication adopted in India. According to departmental standards, normal life of a telephone exchange is 25 years. Out of 27 strowger exchanges in Calcutta Telephones as many as 14 exchanges have completed life varying from 27 to 32 years. The Department stated (November 1985) that the implementation of the replacement programme is already under process. 4000 lines of '24' exchange had already been replaced by '29' exchange and equipment had already been received for replacement of 4 more exchanges which were expected to be completed during early part of 7th Plan.

4.8 Asked to explain the reasons for slow replacement of old exchanges the Department of Telecommunications stated that due to limited resources and due to limited productions of switching equipments by ITI old life expired exchange equipments could not be planned for replacements simultaneously.

4.9 Asked about the positions of replacements of old exchanges in other metropolitan cities, the Department of Telecommunications furnished the following: details of the equipments, in three other metro cities, which have served for more than 25 years as on 1-4-85 and are due for replacement during the 7th plan period in accordance with plan objectives. Replacement equipments have been allotted for all the outlived equipments and would be commissioned during 7th plan period progressively.

Sl. No.	Name of Exchange	Exge. code	Equipped capacity as on 1-4-85	No. of lines which have served 25 years as on 1-4-85
(i)	*Bombay*			
1	Byculla	'37'	8100	7700
2.	Naigaon	'44'	8000	4000
3.	Cental	'26'	10400	5000
4.	Colaba	'26'	7200	2500
	TOTAL		33700	19200
(ii)	*Delhi*			
1.	Karol Bagh	'56'	10000	5000
2.	Jor Bagh	'61'	12600	3000
	TOTAL		22600	8000
(iii)	*Madras*			
1.	Central (East)	..	10000	5100
2.	Kilpauk	..	6000	2000
3.	Mylapore	..	6000	2000
	TOTAL		22000	9100

From the above it is seen that equipment requiring replacement is maximum in Calcutta Telephones as shown below:

System	Total equipped capacity	Equipment to be replaced as on 1-4-85	Percentage
Bombay Telephones . . .	4,72,400	19200	4.1%
Calcutta Telephones . . .	2,33,200	70000	39·0%
Delhi Telephones . . .	3,10,650	8000	2.6%
Madras Telephones . . .	1,12,250	9100	8.3%

(iii) *Upgradation of Penta Conta Cross-bar exchanges*

4.10 The Audit Para states that as per Government decision taken in 1962 to adopt the Penta Conta cross bar system manufactured by a foreign firm of Belgium, many Penta Conta cross-bar exchanges with indigenously manufactured equipment (by the ITI Bangalore) and imported equipment, were added to the net work. By the end of 1983-84 there were 15 Penta Conta type exchanges. As the performance of these cros-bar exchanges was found to be extremely poor and fault rates were very high, and as even the collaborators could not solve these problems, the Department set up a task force to identify the problems and suggest solutions. The task force detected many defects and suggested upgradation and modification of circuits which were progressively incorporated in the ITI production schedule during 1972-73 to 1974-75. A crash upgradation programme was started in the light of decision taken in a meeting held in September 1975 and the Department again issued instructions in July 1976 that all exchanges commissioned after 31st March 1976 should be upgraded before their commissioning. In Calcutta Telephones, 14 ITI supplied cross-bar exchanges were commissioned during December 1971 to January 1981. The upgradation of old exchanges was completed by December 1978. A test check in audit revealed that the call failures continued to be high even after upgradation.

4.11 The Committee enquired about the reasons for failure of the cross bar system. The Committee also enquired why the defects should not be detected before entering into collaboration for this system and whether responsibility in the matter had been fixed. The Department of Telecommunications stated that.

"Candidly speaking, the selections of Pentaconta crossbar system had been a mistake.

Conceptually, the Pentaconta Crossbar system was the most modern at the time it was selected. It had certain very attractive design features, like capacity of the switch was 1000 lines compared to 200 lines for other cross-bar system—availability of compelled sequence multi-frequency signalling.

However, the system had not been fully field proven and eventually, it provided to have certain weaknesses. In fact, some of the attractive features theoretically proved its weakness. These were:

(a) Mechanical adjustment instability of the large capacity switch.

(b) the close tolerances required from the signalling generators and receivers in the compelled sequence multifrequency signal system.

(c) Inadequate contact protection of a large number of relay contacts involved in breaking currents.

To guard against a similar error, it is now being insisted that any new technology adopted is fully field proven before its large-scale introduction into the net work.

There is no question of fixing any responsibility. The decision was taken by a group in the light of their judgement of the technical and other features. In retrospect, it is seen that there had been an error of judgement in placing too much store on attractive conceptual features against field provenness criteria."

4.12 The Committee enquired whether proper prototype testing of the foreign equipment was carried out to examine their suitability to Indian climate and traffic conditions, before going in for their bulk import from the foreign firm and large scale manufacture as ITI. The Department of Telecommunications stated that.

"No proto type testing was done. Proto type field trial and productionisation are involved in the cases of new designs. In the case of working system the performance and suitability are examined on the basis of the exchanges already working in other administrations."

4.13 The Committee enquired whether such precautions had been taken in respect of collaboration agreements entered into with other similar firms recently. The Department of Telecommunications stated that

> "While entering into collaboration agreement it is being ensured that agreements are entered into with only such firms whose systems are well established and have a large number of lines for the system already in use. No prototype testing is carried out except for small units whose field performance in other countries is not available for study.

4.14 Asked how many imported exchanges and ITI manufactured exchanges were upgraded and what was the total amount of expenditure incurred for this purpose. The Department of Telecommunications stated that

> "No imported exchange has been upgraded in Calcutta Telephones, only 14 exchanges (all ITI make) have been upgraded with a total cost of about Rs. 17.4 lakhs."

4.15 The Committee enquired whether all the defects pointed out by the Task Force had been rectified during upgradation or upgradation had been done only partially. The Department of Telecommunications stated that

> "all the defects pointed out by the Task Force have been rectified during upgradation."

4.16 Asked whether the defects, if any, left unrectified would affect the life of the equipment, the Department of Telecommunications stated that

> defects, if left, will affect the life and performance of the equipment adversely.

4.17 In reply to another question whether the performance of the upgraded exchanges was upto the expectation, it has been stated:

> "Yes Sir."

4.18 The Committee asked for details in respect of upgraded exchanges of Delhi and Calcutta. In a note, the Department of Tele-

communications gave the following comparative details in respect of upgraded exchanges of Calcutta and Delhi:

Calcutta		Delhi	
Sl. No. Name of the Exchange	Capacity at the time of commissioning	Name of the Exchange	Capacity at the time of commissioning (upgraded)
1. Russa-II(41)	2000	Chanakayapuri (67)	4000
2. Panihati (58)	2000	Hauz Khas (65)	2500
3. Kalighat (48)	2000	Janpath-II (32)	3000
4. Russa-III (42)	6000	Okhala Main (63)	2500
5. Circus (43)	3000	Okhala Extn. (63)	2500
6. Jorasanko (32)	4800	Shahdara Main (20)	1000
7. Bagh Bazar (54)	3000	Shahdara Extn. (20)	1000
8. Uttarpara (64)	2000	Janpath I (31)	3000
9. Jadavpur (72)	4000	Karol Bagh Main (58)	7000
10. Behala (77)	4000	Karol Bagh Extn. (58)	2000
11. Kasipur (52)	6000	Jor Bagh Main II (62)	6000
12. East II (36)	4000	Jor Bagh Extn. II (62)	2000
13. Srerampara (62)	2400		
14. Avenue (31)	3600		
TOTAL	48800		36500

4.19 As pointed out in the Audit Para, the Committee enquired why the percentage of call failure continues to be high even after upgradation of Penta Conta Cross-bar Exchanges and whether the call failure could not be controlled. The Department of Telecommunications stated that :

> "the performance of Penta-Conta exchanges as regards percentage call failure has been improving in general since modifications have been carried out. As may be seen from the following, there has been a decline in percentage call failure for most of the exchanges. Efforts are being made for further improvement of the remaining exchanges also.

Sl. No.	Exchange Code	1983	1984	1985	1986
1.	49	1·0	1·0	13	3·5
2.	54	1·0	0 0	1·0	1·0
3.	77	1·0	1·5	2·5	Nil
4.	43	5 5	1·0	2·5	1·5
5.	52	0 0	1·5	1·5	1.0
6.	36	8·5	2·0	4·0	4·5
7.	72	0 5	5·5	15·5	36·0
8.	32	0·5	1·0	2·0	Nil
9.	31	8 5	9·5	4·5	0·5
10.	48	3·0	0 0	2·0	1·0
11.	62	1·0	4 0	0 0	0·5
12.	64	3 0	0 0	1·0	Nil
13.	41	5 0	3·0	14·5	5·5
14.	42	2 5	1·0	2·5	1·0

4.20 Asked what steps had been taken to reduce the call failure rate in such exchanges, the Department of Telecommunications stated that steps taken to reduce call failure in penta conta exchanges are as follows :

"(i) Modifications of circuits for improved performance;

(ii) Creation of special task force team for checking and removing faults.

(iii) On the spot training of staff."

4.21 The Committee observe that while there has been overall improvement in call failure in Calcutta Telephones in 1986, compared to previous year, there is upward trend in respect of exchange code 36 and 72. Therefore, they desired to know the reasons for this upward trend. The Department of Telecommunications stated that '36' and '72' are cross bar exchanges. The performance of these exchanges deteriorated during the agitation of the Junior Engineers in 1986, call failures were 20 per cent in 36 exchange and 60 per cent in 72 exchange. Junction circuits to these exchanges were also affected for some time seriously affecting the junction calls, Maintenance efforts were intensified and performance of these exchanges are

now comparable with the other exchanges of the system. Now call failures are 12 per cent in 36 exchange and 9 per cent in 72 Exchange.

(iv) *Slow progress in installation of PCM and inadequate results*

4.22 The Audit Para states that in order to minimsie junction faults and improve the quality of service in inter-exchange calls, it was decided after conducting a study that physical cables would be used extensively in case of route distance being less than 10 Kms., and cable based PCM system and microwave PCM system in cases where the route distance was about 10 Kms. or more. According to annual targets fixed during 5 years from 1979-80 to 1983-84, PCM cables and microwave PCM were to be laid on 168 systems and 121 systems respectively. However, only 74 cables based PCM system were installed till March 1984. The shortfall was attributed to non-supply of equipment and defects in equipment supplied by ITI.

4.23 A review of faults in junction cables (overall) in eight routes before and after introduction of PCM system, however, revealed that the percentage PCM faults ranging between 13 to 53 were not less that the overall junction faults which ranged between 5 and 46 per cent. The Department stated that the shortfall in meeting the targets was due to non-receipt of equipment from indigenous/ foreign sources.

4.24 The Committee enquired whether the targets for laying PCM cables and microwave PCM are fixed keeping in view the demand *vis-a-vis* supply. The Department of Telecommunications stated that there is a little impercission in the phrase "PCM cables". What is meant perhaps is PCM systems on existing cable pairs. Estimates of the number of junctions required for inter-connecting various exchanges for the planned capacities are made. A plan is then prepared as to how these junctions could be provided. This could be by utilising physical pairs in new cables to be laid, installation of PCM equipments on selected suitable cable pairs in existing junction cables if they are spare, digital microwave radio systems (Microwave PCMs) and progressively even in fibre optic cables. After weighing the techno-economic considerations the required junctions are distributed between these various systems and projects are prepared to meet the planned requirement of junctions. The commissioning programme for these schemes is fixed taking into account anticipated supplies from the indigenous and foreign sources.

4.25 The Committee enquired about the reasons for not forecasting the correct supply position. The Department of Telecommunications stated that the anticipation of possible supplies is first

made in the beginning of the five year plan period when the junction plan is finalised and checked thereafter periodically. The supply position depends upon the ability of indigenous manufacturers to offer bulk quantities to required specifications and the foreign supplies are subject to various licences, loans and clearances.

4.26 Almost two years have passed when the Seventh Five Year Plan was launched. The Committee enquired whether the progress in various schemes relating to Calcutta Telephones was satisfactory, the Department of Telecommunications stated that the progress of the various schemes during the 7th Five Year Plan in regard to switching and provision of telephone connections has been very satisfactory. The progress in regard to transmission has not been entirely satisfactory. This is because the schemes for optical fibre systems, digital microwave, etc. are still in the process ot approval. The equipment is proposed to be imported and the necessary financing arrangements and clearances are in the process of being obtained.

In general, it is hoped to achieve most of the targets envisaged in the Rs. 4010 crore investment Plan. If the plan investment is enhanced then it could be significantly improved upon.

4.27 The Committee also enquired about the defects in equipments supplied by the ITI. It has been stated that there were reliability and quality problems in ITI make PCM systems mainly as detailed below :

(i) Frequent failure of components and main units.

(ii) Non reliability of the line supervisory filters.

(iii) Frequent failure of signalling converter circuits etc.

4.28 The Committee also enquired whether the defects were removed by the ITI and what has the ITI stated about the defective equipment supplied. It has been stated that now in 1985, after considerable interaction with the field, modifications in units have been finalised and the modfication kits/units are now being provided at required places.

4.29 Asked why the number of junction cable faults have not been reduced even after introduction of the Pulse Code Modulation system, the Department of Telecommunications stated that the PCM equipment gives high grade junction, but faults on cable also affect the PCM equipment working on the cable. However, the PCM systems introduced in Calcutta so far is very meagre.

4.30 The Committee also enquired about the extra expenditure involved per Km. in introduction of the PCM system. The Department of Telecommunications stated that providing junctions by installation of PCM equipment on existing good and spare cable pairs is more economical than laying new cables provided the distance is more than a certain length and the number of pairs wanted is also more than a certain number. The cost of the PCM terminals and repeaters and manholes is always extra but by utilising two good pairs one gets 32 additional junctions i.e. the existing pairs are 16 time more intensively utilised. The relative economics are changing mostly in favour of PCM in countries abroad because of reducing transmission equipment costs.

(v) *Defective construction of cable ducts*

4.31 The Audit Para has revealed that to improve the performance of cable network, the Department decided that junction cables and primary cables be laid in ducts. For this purpose, 25 schemes of cable ducting covering route length of 66.81 Kms. were approved in 1976. The estimated cost of 24 schemes out of 25 schemes was Rs. 615.89 lakhs. The estimated cost of one project was not available. As on 31st March 1985, 18 schemes covering a total of 45.29 Kms. were completed (involving expenditure of Rs. 484.61 lakhs excluding the cost of pipe for one scheme which was not available against the estimated cost of Rs. 425.16 lakhs and 4 schemes covering 9.54 Kms. were in progress (March 1985). The work on the remaining 3 schemes is yet to be taken up. The Department accepted that the ducts constructed were defective in many cases and water was flowng inside the chambers causing blockage of ducts, rendering the existing cable liable to be damaged and laying new ones impossible. Apart from the very purpose of constructing cable ducts having been defeated, defective construction would lead to blockage of ducts necessitating considerable expenditure on maintenance. The Department stated that seepage of water was not uncommon even in foreign countries and water in ducts did not affect the cables in any way.

4.32 In course of Acceptance testing of cables for the completed schemes, it was noticed by the Department that water was dropping from almost all the pipes. This was attributed by the Department to the pipes having not been laid with due pressure and proper method of joining. Rectificatory action was required to be taken to set right these lapses. The Department's reply is silent on the measures taken to rectify the above lapses.

4.33 The Committee enquired whether any responsibility had been fixed for defective construction of cable ducts and what effective measures had been taken to avoid such lapses in future and the rectificatory action taken to set right these lapses. The Department of Telecommunications stated that :

> "the duct construction in Calcutta is generally free from defects as has been demonstrated by the fact that cables have been laid through them and also the ducts which have not been utilised so far have passed the mandril test."

(vi) *Future Plan*

4.34 The Committee enquired about the Seventh Plan expansion/ updating plans of the Calcutta Telephones for providing more efficient consumer service. The Department of Telecommunications stated as follows:—

(1) During 7th Plan it is planned to add 45,000 lines of exchange capacity out of which 15,300 lines have already been added.

(2) During the 7th Plan it is planned to replace 91,800 lines of old/worn out exchanges, out of which 40,000 lines have been replaced so far.

(3) It is proposed to construct a total of 100 Kms. of ducts by 1990, out of which 56 Kms. have so far been completed.

(4) It is proposed to replace majority of the junction cables by radio relay and optical fibre systems.

(5) 9 radio links have been installed. 60 more are likely to be installed during the 7th Plan.

37 optical fibre cable systems have been planned.

(6) PCM systems are proposed to be installed on various junction cables. 338 systems have so far been commissioned.

Another 700 have been planned.

Electronic Trunk Automatic Exchanges (TAX) have been planned. 4000 lines SPC electronic TAX has been installed in 1983. A 4000 lines digital electronic exchange has been planned to replace the 4000 lines Penta TAX.

Another 8000 lines digital TAX is planned.

(7) A 3000 lines Digital Electronic Telex has been installed in 1983. Expansion by 4600 lines has been planned out of which 2500 lines will be used to replace the existing strowger telex.

(8) Computerization of Telephone Directory updating and enquiry service : Computer has been installed. Software and data work is in progress.

4.35 Asked whether we are keeping pace with the technological development in the field of Telecommunications, the Department of Telecommunication stated:

"Yes, please.

The Department of Telecommunications has been continuously updating its technology and equipment and plant in service. The latest proven technologies are being adopted in switching, transmission, and subscribers' apparatus.

A factory to produce 500,000 lines of digital electronic exchanges is under installation at Mankapur in UP. Two lakh lines of these exchanges have been imported and installed. They are working very satisfactorily and are able to provide all the modern facilities offered by electronic exchanges.

A factory to produce 30,000 lines a year of digital TAX's is under installation at Palghat.

A number of Public Sector units are in the process of finalising their agreements to produce digital transmission system as follows:

— Optical Fibre cables Electronics	— MPSEDC in Bhopal District, & HCL & ITI
— Digital Microwawe systems	— ITI and BEL.
— Digital Coaxial cable systems	— ITI.

— Subscribers' Telephone Instruments	— A number of units, including, ITI, are setting up manufacture of electronic push button telephone instruments.
— Electronic Teleprinters	— M/s. HTL are setting up production of electronic teleprinters, both English and Biscriptual Roman and Devanagari.

A Centre for Development of Telematics (C-DOT) has been set up jointly by the Departments of Telecommunications and Electronics. They are in the process of developing a family of digital electronic switching systems specifically suited for the Indian Environment.

The Telecommunications Research Centre is in the process of development of a family of digital multiplex equipment. Some of these have been cleared for productionisation."

4.36 During oral evidence before the Committee, the Secretary Telecommunications had stated that the Department was contemplating a multi dimensional approach to boost the efficiency of the Calcutta Telephones. In a written note furnished to the Committee, it has been stated that the main thrust towards improvement in telephone service is by way of introduction of modern technologies in both switching equipment and external plant. Parallel action is also being taken to make the monitoring of system performance more effective and meaningful through improved management techniques and use of computers. Computerisation of various services/activities like directory enquiry, commercial records, billing, cable records, inventory control, etc., are at various stages of implementation. The details of the important activities are presented below :

(a) *Switching equipment*

(i) *Replacement of old equipment and expansion of system by electronic equipment.*—9,900 lines of strowger equipment had been replaced by electronic equipment in March, 1986. This was followed by replacement

of another 31000 lines by December, 1986. It is expected to replace another 51,800 lines of strowger equipment by March 1990. The equipped capacity by March 1990 has been planned to be 286700 lines, which indicates an addition of 45000 lines to the existing equipped capacity.

(ii) *Trunk Automatic Exchange (TAX).*—Already 4000-line electronic (analog) TAX has been functioning since 1983. In addition, the existing 4000-lines PC TAX has been planned to be replaced by a 4000 line digital TAX. Another 8000-line digital TAX has also been planned to be commissioned by March, 1990.

(iii) *Telex.*—A 3,000 line electronic Telex exchange is in operation since 1983. This will be expanded by another 4600 lines of which 2500 lines will be used to replace the existing estrowger Telephone Exchange. These works have been planned to be completed by March, 1990.

(b) *External Plant*

An ambitious programme for modernisation and growth of the external plant in Calcutta has been taken up for the 7th Plan period. This envisages provision of the inter-exchange junctions predominantly on digital microwave, optical fibre and PCM (Pulse Code Modulation) systems and replacement of old and unreliable cables. Further schemes of construction of cable ducts and erection of cabinets and pillars have also been drawn up. Gas pressurisation works also will be stepped up. The details are indicated below :

(i) *Installation of radio links for juction working.*—9 radio links are already working. It has been planned to increase the digital microwave links to 23 covering a total of 69 working radio systems, by March, 1990.

(ii) *Installation of optical fibre systems.*—A total of 37 optical fibre cables systems have been planned. These systems are likely to be brought into service in a major way from 1988-89.

(iii) *Installation of Pulse Code Modulated (PCM) systems.*—338 PCM systems are working at present. Another 700 PCM systems are expected to be commissioned by March, 1990.

(iv) *Construction of underground cable duct.*—56 Kms. of duct have already been constructed. It has been planned to increase the total duct length to 100 Kms. by March, 1990.

(v) *Erection of cabinets and pillars.*—A total of 1347 cabinets and pillars are already in use in the network. It has been planned to increase the number of cabinets and pillars to 2153 by March, 1990.

(vi) *Replacement of cables*

A total of 44.15 Kms. of cable has been replaced till November, 1986 against a target of 31.59 Kms.

(vii) *Gas pressurisation of cables*

1136.1 Km. of cables have been pressurised so far. Pressurisation of 2624.1 Km. of cables has been planned to be completed by March, 1990.

(c) In addition to the above steps to give Calcutta the necessary inputs of modern equipment and technologies, special effort is being made to improve the morale of the staff. Selected staff is being posted to Calcutta. Further, frequent meetings are being held by senior officers from the Directorate with officers and staff in Calcutta and they are being encouraged to improve the performance. Their efforts are being watched and whenever they achieve success, suitable appreciation is given.

4.37 At the beginning of his evidence before the Committee the Secretary, Telecommunications had stated that the morale of the working force of the Calcutta Telephones had gone down very low. The Committee therefore enquired about the steps being taken to raise the morale of the working staff to put back the Calcutta Telephones on an even keel. The Department of Telecommunications in a written note furnished to the Committee subsequently stated that :

"The morale of any work force is related to a very large extent to the sense of achievement and performance. If a work force feels that they are not achieving any worthwhile results, morale tends to suffer. Continuous criticism also tends to undermine the confidence.

In telecommunications sector generally, and in Calcutta Telephones particularly, the staff has been under tremendous pressure, because of:

(a) very large demand-supply gap,

(b) continuous under-investment, leading very often to substitution of essential capital investment by man power,

(c) with the large traffic, continuous failures in calls,

(d) in face of acute shortages, acceptance of equipments and materials not conducive to adequate reliability,

(e) in the face of dissatisfaction due to high failure rates and poor call success rates, persistent criticism very offen fully justified, but occasionally highly exaggerated.

The only way the morale can be built up is by giving the staff a taste of success. This is what is being attempted by giving the staff the necessary inputs of higher technology and also a pat on the back whenever success is achieved even though in small steps.

With the steps planned it is hoped to put the Calcutta Telephones on an even keel during the course of next 3 to 4 years."

4.38 The Secretary, Telecommunications had also stated during evidence before the Committee that "if the Telecommunications facilities in India are 'allowed' to expand in India we would repay back the amount". Asked to spell out this statement and the impediments that are placed in the expansion of the Telecommunication facilities, the Department of Telecommunication stated in a note that—

"It is well known that the value of telecommunication services to the user far exceeds the cost. As a result, the world ever, the customer has been willing to pay adequately not only to cover the costs of the operating administration fully but to pay also for the necessary expansion and improvement of services.

Even with the comparatively unsatisfactory service, the Department has been able to achieve a rate of growth of 7 to 8 per cent P.A. exponential, financed to the extent of about 64 per cent entirely from its own resources.

The studies world over indicate that a large demand supply gap in regard to telecommunication services leads to poor quality of service by way of high fault rates and low call success rates. This has an adverse effect on revenue potential also.

In country after country, since World War II, the telecommunication services have been expanded and the quality of service and reliability improved dramatically through adequate investment and bridging the demand-supply gap. In all these countries, the telecommunication administrations have had to resort to some form of borrowing during the period of high rates of growth, but once adequate developments have taken place and the rate of growth stabilised, they have been able not only to generate adequate funds for further expansion but also to pay back the loans.

On the Indian scene, the situation is that in the past, the demand for telephone connections has been growing @ 10 to 12 per cent P.A. exponential. The telephone connections have been growing @ 7 to 8 per cent P.A. exponential, with the result that the waiting lists and waiting periods have grown continuously.

With the limited investments largely found from the internal resources or through budgetary support by way of loans, efforts have been made to meet as large of the demand as possible. In the process, too often, efforts have been concentrated on reducing the capital investment and substituting it by manual operations. Essential steps to ensure quality and reliability have been sacrificed.

Inevitably, the call success rates, both STD and manual trunks, have been low. In case of manual trunk calls, the calls that do not mature lead to loss of potential revenue straightway. In case of STD calls, subscribers make repeated attempts and may finally succeed or may not. There is no denying that the growth of traffic is discouraged.

If somehow arrangements could be made for adequate investment such that the demand-supply gap can be bridged and a network established with high reliability, there will be a natural growth of traffic which will further improve the earnings of the Department of Telecommunications.

The Department has proposed a perspective plan for the year 2000 such that telephone connections can be provided practically on demand. It will be necessary to substantially expand the network using the modern technologies and practices which enable high quality and reliable services.

This will call for expanding the number of telephone connections from the present 32 lakhs to about 2 crores by the year 2000, which will mean stepping up the rate of growth from 7 to 8 per cent P.A. exponential to about 15 to 16 per cent P.A. exponential. This will naturally call for significantly higher resources, and therefore, higher borrowings.

To meet the above requirements, it will be necessary to invest anything between 45 to 50 thousand crores of rupees upto the year 2000. With the continuously improving service, it should be possible to generate about 50 per cent of this investment internally. The remaining 50 per cent will have to be mobilised from public through suitable instruments.

Once a highly reliable network has been established as proposed, it should be possible to generate more and more funds internally and as the demand growth rate starts declining with saturation, it should be possible to first finance the growth internally and later repay the borrowings.

The indirect effect of such a strategy on the economy as a whole will also be substantial. The management of various economic activities will improve. There will be substantial savings in transport etc. Pressures for concentrating in large urban centres will also ease."

(vii) *Organisational set up*

4.39 The Committee enquired about the organisational set-up of Calcutta Telephones. It has been stated that :

"Overall the General Manager, Calcutta Telephones is responsible to the Telecommunications Board for Planning, Development, maintenance, operation and management of all telephones services in Calcutta.

He is assisted by 3 additional General Managers :

— One is incharge of operations,

— Another incharge of planning and development

— Third specifically to resolve the problems in regard to cables, cabinets, pillars etc.

He is also assisted by an Internal Financial Adviser

There are 5 Area Managers responsible for operation, maintenance and commercial matters in their respective areas.

The manual trunk exchange, auto manual services and Telex are under the charge of one of the Area Managers exclusively.

The overall staff recruitment, vigilance, store procurement, telephone revenue are handled by the office of the General Managers".

4.40 Asked whether this set up is functionally suitable to meet the challenges of the Calcutta Telephones for providing efficient telephone services to the people, the Department of Telecommunications stated that:

"The basic problems of Calcutta Telephones, and for that matter of the telecommunications system in the whole of country, are not so much related to organisation as to:

(a) adequate investment,

(b) need to close the gap between demand-supply.

(c) prioritisation of the various sub-objectives, namely, need for giving the highest attention to quality and reliability of the telecommunication services compared to their expansion or in regard to subsidiary matters like setting up of telecommunication industries in backward areas, etc.

In this context, in Calcutta, the priority has to be given to :

(i) Construction of cable ducts, cabinets & pillars,

(ii) Replacement of damaged cables,

(iii) Replacement of worn-out electro mechanical equipment,

(iv) Replacement of fault-prone telephone instruments,

(v) Computerisation of some of the essential operations like Director Inquiry, Billing, Records (Commercial and cables), manual trunk operations, etc.

In the past, there has been, to some extent, an effort to substitute manpower for capital investment. This cannot be sustained in a complex network like telecommunications. The necessary investments will have to be made, and dependence on manual operations reduced to the minimum, particularly those services which are required in real time on demand round-the-clock."

4.41 In reply to another question whether this structure needs to be modified on the lines of Delhi Telephones into a Corporation the Department of Telecommunications stated that :

"There are advantages and disadvantages in running telecommunication services as a departmental undertaking or as a corporation. Both types of structures have been used in different countries. In majority of the countries till recently, telecommunication services have been run as departmental undertakings have achieved excellent results. The latest example is that of France, which achieved outstanding success in bridging the demand-supply gap and improving the quality of service during the 70s and early 80s, largely through innovative approach to mobilising investible resources.

The Corporation structure, no doubt, gives more flexibility and autonomy to the organisation. However, in a network service like telecommunications, local services are a natural monopoly. Breaking up the network into a multiplicity of corporations is not likely to lead to any significant advantages and could lead to serious problem or coordination etc. The experience of divestiture of the AT&T operating companies in USA is a pointer in this direction. The quality and cost of local telephone service to an average subscriber has suffered.

In the Indian context, one has to take into consideration the need for cross subsidies within the telecommunications network. Inevitably, the value of long distance calls made largely by business subscribers is much higher than the local calls or possession of a telephone purely for emergency use. The business subscribers are able and willing to pay adequately for the service while individual subscribers are not so happily placed. The surpluses are generated from business customers from their long-distance calls. These are then used to subsidise the local services and the services in rural sector. It will, therefore, not be appropriate to separate out the large telephone

systems in the country from the main network. It will not be out of place to mention that the primary motivation for setting up the Mahanagar Telephone Nigam for operating the services in Delhi and Bombay was to provide an institutional frame-work for mobilising financial resources from the capital market."

(viii) *Forum for users' view*

4.42 The Committee enquired about the mechanism for exchange of views between the organisation and users. The Department of Telecommunications stated that there are several avenues for exchange of views between the subscribers and the organisation. These are:

(i) Telephone Advisory Committee.

(ii) Public Grievance Cells under the charge of PROs are opened in all Area Managers Offices, in the Headquarter office and in the billing headquarters office. Bi-annual meetings of the General Manager with the Members of the Parliament.

(iii) Divisional Engineers, Area Managers, GM and Addl. GMs meet the subscribers having grievances.

(iv) District Complaints Officer posted at the headquarters for dealing with subscribers complaints at the headquarters.

(v) General Manager meets the Chambers of Commerce frequently.

(vi) Calcutta Municipal Corporation held Utility Services meetings in all Wards of the Municipal Area for receiving complaints in which Calcutta Telephones also participated.

4.43. The Committee find that out of 27 strowger exchanges of the Calcutta Telephones, 14 exchanges have outlived their lives. The Committee note that replacement equipments have been allotted for all the outlived equipments and would be commissioned during the Seventh Five Year Plan. The Committee also note that as compared to other metro Telephone Districts, the extent of replacement required is the highest—39 per cent (Bombay: 4.1 per cent, Delhi: 2.6 per cent, Madras: 8.3 per cent). The implementation of these schemes need to be closely watched and the Committee cannot but caution the Government to ensure that these are got executed within the time frame, settled well in advance. The Committee need hardly emphasise that delay in implementation of schemes have grave financial implications.

444. In regard to the Penta Conta cross bar exchanges manufactured by a foreign firm of Belgium, which were added to the network, as per decision taken in 1962, the Committee find that their performance was found to be extremely poor and the percentage of call failure continued to be high even after their upgradation. The Department of Telecommunications have stated that the upgradation of the cross bar exchanges mainly took care of the contact protection and minor circuit exchanges. The absence of air conditioning due to power shedding has had deleterious effect on their performance. As stated by the Department "candidly speaking, the selection of Penta Conta cross bar system had been a mistake. Conceptually, the system was the most modern at the time it was selected. However, the system had not been fully field proven and, eventually, it proved to have certain weaknesses."

4.45. In this connection, the Committee note that "to guard against a similar error, it is now being insisted that any new technology adopted is fully proven before its large scale introduction in the network" and "in retrospect it is seen that there had been an error of judgement in placing too much store on attractive conceptual features against field provenness criteria."

4.46. The Committee hope that the Government would exercise due care and closely analyse all relevant factors before going in for new equipment so that mistakes of this nature are not repeated in future.

4.47 The Committee note that the Department of Telecommunications is contemplating a multi-dimensional approach to boost the efficiency of the Calcutta Telephones. The main thrust towards improvement in telephone services is by way of introduction of modern technologies in both switching equipment and external plant. Parallel action is also being taken to make the monitoring of system performance more effective and meaningful through improved management techniques and use of computers. Computerisation of various services/activities like Directory Enquiry, commercial records, billing, cable records, inventory control, etc. are at various stages of implementation.

4.48 In addition to the above mentioned steps to give Calcutta the necessary inputs of modern equipment and technologies, special effort is also being made to improve the morale of the staff. Selected staff is being posted to Calcutta. Frequent meetings are being held by senior officers from the directorate with the officers and staff in Calcutta and they are being encouraged to improve the performance;

and their efforts are being watched and whenever they achieve success, suitable appreciation is given.

4.49 The Committee further note that the Department of Telecommunications have proposed a perspective plan for the year 2000 so that telephone connections can be provided practically on demand. It will, therefore, be necessary to substantially expand the network using the modern technologies and practices which would ensure high quality and reliable services. This will call for expanding the number of telephone connections from the present 32 lakhs to about 2 crores by the year 2000, which will mean stepping up the rate of growth from 7 to 8 per cent p.a. exponential to about 15 to 16 per cent p.a. exponential. This will necessitate significantly higher resources and therefore higher borrowings. To meet these requirements, it will be necessary to invest about Rs. 45000 to Rs. 50000 crores of rupees upto the year 2000. As stated by the Department, with the continuously improving services, it should be possible to generate about 50 per cent of this investment internally, the remaining 50 per cent will have to be mobilised from public through suitable instruments.

4.50 The Committee hope that the Department of Telecommunications will make all out efforts to implement their plans for rehabilitating the Calcutta Telephones.

4.51 The Committee also note that to improve telecommunication facilities in metropolitan cities of Delhi and Bombay a Corporation viz. Mahanagar Telephone Nigam has been established and seems to have improved the telecommunication facilities in these places. The desirability of converting the Calcutta Telephones into a Corporation requires consideration by the Government.

4.52 This is the first time that a full review of the Calcutta Telephones has been done. Earlier, performance of a telephone exchange of the Calcutta Telephones came to be reported upon by the Comptroller and Auditor General of India and examined by the Public Accounts Committee. The Committee had also made their recommendations earlier in their 153rd and 229th Reports (7th Lok Sabha). The recommendations made by them in their earlier Reports were not implemented. There has been a further deterioration in the performance of the Calcutta Telephones. This matter must, therefore, be taken up seriously by the Government.

NEW DELHI;
April 27, 1987
Vaisakha 7, 1909 (*S*)

E. AYYAPU REDDY,
Chairman,
Public Accounts Committee.

APPENDIX I

(*See* Para 1 of the Report)

Paragraph 21 of the Report of Comptroller and Auditor General of India 1984-85—Union Government (P&T)

Audit Paragraph

21. *Review on working of Calcutta Telephones*

21.1 *Introductory*

Calcutta Telephone system is the third largest telephone system in the country (after Bombay and Delhi) and is headed by a General Manager (GM) who controls the operations and maintenance and is also responsible for formulation, execution and monitoring of planned programmes.

21.2 *Growth in demand and satisfaction*

21.2.1 The Calcutta Telephones had an equipped capacity of 2.01 lakh lines as on 1st April 1980 and the Department targeted a further addition of 0.41 lakh lines during 1980-85. However, it could instal only 0.32 lakh of lines during the above period as indicated below (Table 21.2.1), showing an overall shortfall of 22 per cent in achieving the targets.

TABLE 21·2·1

Year	Equipped Capacity targeted	Equipped Capacity installed
	(No. of lines)	
1980-81	2000	5050
1981-82	10000	1900
1982-83	16000	2500
1983-84	7000	9550
1984-85	6000	13100
	41000	32100

The Department stated (November 1985) that the production of cables and equipment as available in the country had not been sufficient to meet the demand fully and steps were being taken to augment the production capacities in Public and joint sectors through imports to match the requirements.

21.3 *Operating performance*

21.3.1 The Department has prescribed certain norms like (i) utilisation of equipped capacity, (ii) percentage of effective calls, (iii) complaints/faults per 100 stations and average duration of faults, etc., to assess the performance. A review of the performances is detailed below :—

(i) *Under-utilisation of equipped capacity*

According to departmental instructions, exchange capacity should be utilised to the extent of 90 per cent soon after expansion/installation and in any case not later than 6 months of such expansion and to the extent of 94 per cent about 6 months before due date of commissioning of the next expansion. However, this was not achieved in spite of the waiting list, resulting in loss of potential revenue of Rs. 24.76 crores during 5 years ending March 1985 (Table 21.3.1).—

TABLE 21.3.1.

Year	Equipped capacity	Connectable capacity	Working connections	Spare capacity (Waiting list)	Net spare capacity	Average revenue per line per annum	Potential loss of revenue due to non-utilisation of spare capacity
1	2	3	4	5	6	7	8
		(Lines in lakhs)				(Rs. in crores)	
As on 31-3-81	2.06	1.91	1.74	16955 (22782)	16955	2217	3.76
As on 31-3-1982	2.08	1.94	1.80	13370 (26992)	13370	2563	3.43
As on 31-3-1983	2.11	1.97	1.84	12676 (17858)	12676	3159	4.00
As on 31-3-1984	2.20	2.04	1.85	18314 (29718)	18314	3250	5.95
As on 31-3-1985	2.33	2.17	1.96	21091 (29550)	21091	3612	7.62
					TOTAL		24.76

Under-utilisation of capacity was ascribed to insufficiency of external net work. The Department stated (November 1985) that loading could not be achieved within the stipulated time due to various constraints like timely availability of cables, other line stores and difficulty in obtaining road cutting permission from Municipal Corporation besides normal restriction during monsoons. Also Metro Railway construction in Calcutta required repeated shifting of cables which called for resources diversion to a large extent, affecting programme of giving new lines. It was seen in audit that non-utilisation of the equipped capacity was also due to belated execution of work orders for giving new connections. The norm fixed for giving new connections is 15 days while that for new PBXs and shifts is 25 days. Test check of 28 per cent on an average of the work orders issued (total work orders checked : 1426 out of 5044 (during the period 1980—84, relating to exchanges revealed that only 46 work orders (3.3 per cent) were executed within one month. 889 work orders (62.3 per cent) were executed after a delay of one month to eleven months and 491 work orders (34.4 per cent) were executed after one year. The delay in execution of work orders was ascribed to non-availability of cable pairs. The Department stated (November 1985) that most of the cable jointers were engaged in the task of repairing damaged and stolen cables and few were available to make pairs available for new connections by opening cabinet/pillar joints and new distribution points on account of which there was delay in completing work orders.

The following Table (Table 21.3.2) shows that in Calcutta, percentage fulfilment of service demands mostly relating to new connections (a) went down from 63.8 in 1980-81 to zero in 1982-83, 1.6 in 1983-84 and 2.2 in 1984-85 and (b) was the lowest among all metropolitan cities since 1981-82.

TABLE 21.3.2

Telephone District	Percentage satisfaction of service demand				
	1980—81	1981—82	1982—83	1983—1984	1984—85
Group Target . . .	90—60	90	71	71	72 1
Group Control . . .		80	64	64	64.9
Calcutta	63.8	18 9	Nil	1.6	2.2
Bombay	19.3	23.1	32 6	28 3	23 1
Delhi	48 8	54 4	63 5	71 1	67.7
Madras	66 8	69 8	70 8	63.4	56.1

(ii) Fault, Repair service and complaints

(a) The permissible number of complaints/faults per 100 stations per month fixed for years 1980—85 and actual performance were as under (Table 21.3.3):

TABLE 21.3.3

Year	Maximum permissible limit		Actuals		Excess over permissible limits	
	Complaints	Faults	Complaints	Faults	Complaints	Faults
1980-81 . . .	70	32	58.9 (150712)	23.7 (60643)	. .	.
1981-82 . . .	30	20	44.6 (118372)	26.5 (71129)	14.6 (38750)	6.5 (17252)
1982-83 . . .	31.5	22	35.7 (96180)	25.9 (69778)	4.2 (11315)	3.9 (10507)
1983-84 . . .	31.5	22	42.6 (116497)	26.7 (73016)	11.1 (30855)	4.7 (12853)
1984-85 . . .	31.5	22	42.7 (121257)	22.6 (64178)	11.2 (31805)	0.6 (1704)
Average Complaints			(120604)		(28056)	
Average Faults . .				(67749)		(10579)

Note: Figures in brackets indicate the number of telephones

The above data will indicate that on an average 1,20,604 telephones were having complaints per month and 67,749 remained faulty per month. Even after allowing the permissible limits of complaints/faults fixed by the Department, 28,056 telephones were having complaints in a month and 10,579 telephones remained faulty in a month.

(b) The following Table (Table 21.3.4) shows that the average duration of fault per month compared with the permissible limit of

average duration was very high in all the years 1980—85 and was the highest amongst all metropolitan districts.

TABLE 21.3.4

Telephone District	1980--81	1981—82	1982—83	1983--84	1984—85
Group Target	3 to 10	4	10.2	10.2	8.5
Group control limit . . .	N.A.	6	11.2	11.2	9.4
	(Average duration of faults in hours)				
Calcutta	22.9	67.4	54.5	46.2	41.2
Bombay	16.2	14.9	20.8	28.8	28.9
Delhi	5.7	4.8	4.7	8.4	7.8
Madras	5.4	5.6	6.6	6.6	10.3

The average duration of faults was in excess of the perscribed limits of the Department ranging from 129 per cent to 338 per cent during 1980-81 to 1984-85.

(iii) *High percentage of ineffective calls*

(a) *Trunk calls*

The Department fixes a target every year for the percentage of effective trunk calls after making allowances for the working conditions, including the existing constraints on the maintenance and operation of the system. Data in the following Table (21.3.5) for 5 years shows (a) non-achievement of the targets of effective calls by 2.8 per cent in 1981-82 to 11.3 per cent in 1984-85 and consequential loss of revenue totalling to Rs. 5.85 crores in 5 years only, (b) high incidence of ineffective calls due to departmental failure where incidence had risen from 30 per cent in 1981-82 to 37.09 per cent in 1983-84.

TABLE 21.3.5

Position of ineffective Trunk Calls

	1980--81	1981--82	1982--83	1983--84	1984--85
1	2	3	4	5	6
1. No. of calls booked (in lakhs)	34.29	33 62	35.34	29.39	26 4[8]
2. (*a*) Effective calls (in lakhs)	19 43	20 91	20.66	16 05	14.2[3]
(*b*) Percentage of effective calls (against target of 65) .	56.7	62.2	58.5	54.6	53.[7]
(*c*) Percentage shortfall in effective calls . . .	8 3	2.8	6.5	10.4	11.[3]
(*d*) Loss due to low percentage of effective calls (Rs. in lakhs)	125 89	38.97	96.09	187.09	136.86
3. (*a*) No. of ineffective calls Item 1-2 (9) (in lakhs)	14 86	12.71	14.68	13.34	12.25
(*b*) Percentage of ineffective calls	43 3	37.8	41.5	45.4	46.3
(*c*) No. of calls cancelled due to departmental failure (in lakhs) . .	12 72	10.13	11.55	10.90	7.38
(*d*) Percentage of calls cancelled due to departmental failure . . .	37.0	30.0	32.6	37.09	27.9

(b) Targets prescribed for percentage failure of '0' level (National trunk dialing code) STD calls varied from 90 in 1980-81 to 30 in 1981-82, 58 in 1982-83 and 40 in 1983-84 and 1984-85. Data in the following table (21.3.6) shows that the STD failure in Calcutta (a) was constantly high varying from 91.6 to 92.5 and (b) was the highest in metropolitan cities.

TABLE 21.3.6

Percentage failure of STD calls per month on level '0' (Sample)

Telephone District	Sample average				
	1980--81	1981--82	1982--83	1983--84	1984--85
Permissible Percentage . .	90	30	58	40	40
Calcutta	92.2	92.5	91.8	91.9	91.6
Bombay	77 8	63 9	73.9	71 2	75.5
Delhi	76.5	90.3	75.0	76 4	55.3
Madras	52 0	50.7	56.7	49.9	50.5

(c) *Inter exchange (junction) and local calls*

The efficiency of local net work is indicated by failure of local calls. The following data of percentage failure of junction calls and local exchange calls per month for 5 years 1980—85 shows that performance of Calcutta Telephones in regard to both inter-exchange calls and local exchange calls (a) was far above the control limit for metropolitan group and (b) was the worst amongst the metropolitan group.

(i) *Percentage failure of Inter Exchange calls (Junction) per month (Sample)*

Telephone District	1980—81	1981—82	1982—83	1983—84	1984—85
Group Target	15	4.00	12.4	4.0	4.0
Group Control	(Not prescribed)	7.00	13 6	4.4	4.4
Calcutta	30.9	27.8	25.2	39.2	42.3
Bombay	7.0	7.0	8.1	7.4	7.7
Delhi	17.7	13.6	13.7	25.1	23.3
Madras . . .	3.9	4.9	5 4	10 5	16 0

The percentage of failure of inter exchange calls was also the highest in Calcutta Telephones and was 861 per cent above the prescribed targets.

(ii) *Percentage failure of local exchange calls per month.*

Telephone District	1980—81	1981—82	1982—83	1983—84	1984—85
Group Target	5	2 0	1.7	1.7	1.3
Group Control	(not prescribed)	3.5	1.9	1.9	1.3
Calcutta	9.8	9.2	8.6	14.6	12.5
Bombay	2.9	2.2	2.3	1.4	1.6
Delhi	1 8	1.8	1.6	2 1	1.7
Madras	0.6	0.7	0.6	1.1	1.6

GMT, Calcutta while accepting the poor performance of the exchanges and high percentage of failures attributed (December 1984) the same to the following reasons :—

(a) Ageing strowger exchanges, unsatisfactory performance of Penta Conta Cross bar exchanges and PC TAX;

(b) Local inter junction outage was high because of constant digging by various developmental agencies;

(c) The number of cabinets and pillars in the cable net work was much less as a result of which localisation of faults became time consuming;

(d) Theft of cables, distribution point boxes; and

(e) Poor performance of long distance media in the Eastern Region.

The Department further clarified (November 1985) that a scheme for duct construction had already been taken up to protect the cables against digging by other agencies and a large number of schemes viz. introduction of Digital systems, Microwave Link PCM system were under scrutiny which would enable better performance of junction circuits.

(iii) *Tardy progress in improving external net work programme.*

While replying to the List of Points raised by the Public Accounts Committee (PAC) on Para 13 of Audit Report (P&T) for the year 1980-81, the Department stated that a special task force under the charge of an Additional General Manager was set up in March 1981 for upgrading the outdoor telephone network by executing various programmes like pressurisation of cables, laying cables in ducts, replacement of fault-prone cables etc., so that there would be fewer faults and optimum utilisation of exchange capacities. The above targets were stated to have been achieved by the Department by July 1985. However, the fact remains that the promise given to PAC regarding provision of improved service to subscribers has not been kept up as the incidence of complaints/faults continued to be on the higher side, exceeding the prescribed limits for this purpose by the Department as brought out in Para 21.3.1 (ii) above. The progress of these protective works as on 31st March 1985 vis-a-vis the targets is given below:—

Sl. No.	Type of Work	Target	Progress as on 31-3-1985	Percentage
1.	Pressurisation of cables	1405 Kms.	1124.30 Kms.	80
2.	Laying of cables in ducts	66 81 Kms.	50 315 Kms.	75.31
3.	Replacement of old cables	31 59 Kms.	22 141 Kms.	70 08
4.	Cabinets and pillars	779 Nos.	441 Nos.	56.81

The Department further stated that the slippage was mainly due to non-availability of adequate quantities of shells and CT boxes and that CT boxes had since been imported and the work was in progress. However, the Department was well aware of these facts while fixing the targets.

21.3.2 *Average revenue per DEL per month*

Average earnings per DEL per month (Local plus STD plus Trunk Revenues) were far below the targets fixed for Calcutta as shown below (Table 21.3.7):—

TABLE 21.3.7.

Year	Group target (per DEL)	Actual earnings (per DEL)	Shortfall per DEL per month	Average No. of DELs	Shortfall
	Rs.	Rs.	Rs.		(Rs. in crores)
1981—82	280	196	84	1,77,150	17 86
1982—83	330	275	55	1,82,144	12.02
1983—84	290	271	19	1.86,180	4 24
1984—85	305	301	4	1,92,030	0 92
					35 04

Following Table showing comparison of actual revenue earned per DEL per month with other metropolitan telephone districts indicated that the actual earning per DEL in Calcutta was the lowest during the year 1980—85.

TABLE 21.3.8

Telephone District	1980—81	1981—82	1982—83	1983—84	1984—85
	(Revenue earned per DEL per month in rupees)				
Calcutta	186 8	196	275	271	301
Bombay	292 8	325	388	352	393
Delhi	310 3	313	355	365	391
Madras	348 8	445	404	480	471

This was apparently due to high rate of call failure on various accounts mentioned in para 21.3.1 above.

21.3.3 *High ratio of local operating expenses to local operating revenue.*

The data in the following Table (21.3.9) for 5 years 1980—85 shows that the operating ratio—an indicator for overall economic operation of a unit — was the highest for Calcutta amongst the metropolitan group except during 1984-85 :—

TABLE 21.3.9

Telephone District	1980—81	1981—82	1982—83	1983—84	1984—85
Calcutta	53.7	61.9	40.6	39.8	35.7
Bombay	22.9	24.4	23 2	24.5	28.5
Delhi	21.7	22 7	22.7	23 8	23 5
Madras	33 9	21.6	28.1	36 4	41.8

The Department stated (November 1985) that the higher percentage of local operating expenses to local operating revenue was due to sluggish economic growth in the whole of Eastern Region including Calcutta and also higher maintenance cost.

21.3.4 *High incidence of cancellation of bills due to spurt in meters.*

Departmental rules prescribed that complaints pertaining to excess local charges should be investigated, disputed bills should be checked and revised bills issued wherever necessary. It was noticed in Audit that the percentage of such cancelled amounts varied between 10.52 and 12.98 during the years 1981—84 as detailed below:

Year	Amount of bills issued	Amount of bills cancelled	Percentage
	(Rs. in lakhs)		
1980—81	3777.36	449.73	11 91
1981—82	4382.51	569.90	12.98
1982—83	5568.30	586.06	10.52
1983—84	5871.12	720.43	12.27

A test check of cancelled bills by audit revealed that they were due to (i) spurt in the meters (ii) incorrect meter readings and (iii) wrong punching by data processing section.

Cancellation of bills arises on the basis of complaints regarding excess billing. Since complaints from the subscribers are not expected to originate for any undercharge, short charge in the bills due to low metering, wrong punching etc., is likely to remain undetected causing leakage of revenue.

The Department stated (November 1985) that as regards short charge, meters are tested for their correct functioning in every cycle period for which 10 calls are allowed free to the subscribers. As regards wrong punching it was stated that to ensure correctness of billing, provision already exists for hundred per cent verification of all punched cards by separate set of verifiers.

The fact remains that inspite of the above safeguards the incidence of cancellation of bills is still high.

21.4 *Measure for expansion; upgradation and maintenance of the system.*

21.4.1 *Targets/works indertaken for expansion of Telephone lines.*

Based on the anticipated demand for new telephone connections, six major projects costing Rs. one crore each were sanctioned at an estimated cost of Rs. 24.31 crores as per details below (Table 21.4.1). In addition 12 smaller projects costing less than Rs. one crore each were also sanctioned at an estimated cost of Rs. 6.77 crores.

A review of 5 major projects by audit showed that 4 of the five major projects (estimated cost: Rs. 14.56 crores for 18600 additional lines) were commissioned with delays ranging from 5 to 46 months and excess expenditure over estimated cost in 3 cases was Rs. 456.04 lakhs, the excess ranging from 32 per cent to 93 per cent as per details below:—

TABLE 21.4.1

Sl. No.	Name of the project	Year of sanction	Estimated cost (Rs. in lakhs)	Target date of commissioning	Actual date of commissioning	Delay in months	Actual Expenditure upto December 1984 (Rs. in lakhs)	Excess expenditure	Percentage of excess
1	2	3	4	5	6	7	8	9	10
1	Avenue II (Code 31) Installation of 3600 lines .	May 1972	153.59	March 1977	January 1981	46	296.14	142.55	93
2	Panihati (Code 58) expansion by 2000 lines .	February 1977	167.70	March 1981	February 1981 (400 lines) March 1982 (1600 lines)	12	133.96	..	..
3	Alipore (Code 49) Installation of 3000 lines. .	April 1980	253.95	March 1982	October 1982 (2000 lines)	7	353.22	99.27	39
4	Tiretta Bazar (Code 25) imported equipment .	August 1980	669.37	March 1983	April 1983	1	883.59	214.22	32
5	Central III (Code 29) imported equipment 10000 lines	August 1980	880.93	October 1983	March 1984	5	762 88	..	..
	TOTAL		2124.54					456.04	

The delay in commissioning of the projects was ascribed by the Department to (a) non-receipt/diversion of equipment (b) shortage of installation staff (c) frequent load shedding and (d) unsatisfactory civil works.

21.4.2 *Old Strouger exchanges*

Strowger exchanges represent the oldest system of telecommunication adopted in India. According to the departmental standards, normal life of a telephone exchange is 25 years. Out of 27 strowger exchanges in Calcutta Telephones as many as 14 exchanges have completed life varying from 27 to 32 years. The Department stated (November 1985) that the implementation of the replacement programme is already under process. 4000 lines of '24' exchange had already been replaced by '29' exchange and equipment had already been received for replacement of 4 more exchanges which were expected to be completed during early part of 7th Plan.

21.4.3 *Upgradation of Penta Conta Cross-bar exchanges*

As per Government decision taken in 1962 to adopt the Penta Conta cross-bar system manufactured by a foreign firm of Belgium, many Penta Conta cross-bar exchanges with indigenously manufactured equipment (by the ITI Bangalore) and imported equipment, were added to the net work. By the end of 1983-84 there were 15 Penta Conta type exchanges. As the performance of these cross-bar exchanges was found to be extremely poor and fault rates were very high, and as even the collaborators could not solve these problems, the Department set up a task force to identify the problems and suggest solutions. The task force detected many defects and suggested upgradation and modification of circuits which were progressively incorporated in the ITI production schedule during 1972-73 to 1974-75. A crash upgradation programme was started in the light of decision taken in a meeting held in September 1975 and the Department again issued instructions in July 1976 that all exchanges commissioned after 31st March 1976 should be upgraded before their commissioning in Calcutta-Telephone. 14 ITI supplied cross-bar exchanges were commissioned during December 1971 to January 1981. The upgradation of old exchanges was completed by December 1978. A test check in audit revealed that the call failures continued to be high even after upgradation.

21.4.4 *Slow progress in installation of PCM and inadequate results.*

In order to minimise junction faults and improve the quality of service in inter-exchange calls, it was decided after conducting a

study that physical cables would be used extensively in case of route distance being less than 10 Kms. and cable based PCM system and microwave PCM system in cases where the route distance was about 10 Kms. or more. According to annual targets fixed during 5 years from 1979-80 to 1983-84, PCM cables and microwave PCM were to be laid on 168 systems and 121 systems respectively. However, only 74 cables based PCM system were installed till March 1984. The shortfall was attributed to non-supply of equipment and defects in equipment supplied by ITI.

A review of faults in junction cables (overall) in eight routes before and after introduction of PCM system, however, revealed that the percentage PCM faults ranging between 13 to 53 were not less than the overall junction faults which ranged between 5 and 46 per cent. The Department stated that the shortfall in meeting the targets was due to non-receipt of equipment from indigenous/foreign sources.

21.4.5 *Defective construction of cable ducts.*

To improve the performance of cable network, the Department decided that junction cables and primary cables be laid in ducts. For this purpose, 25 schemes of cable ducting covering route length of 66.81 kms. were approved in 1976. The estimated cost of 24 schemes out of 25 schemes was Rs. 615.89 lakhs. The estimated cost of one project was not available. As on 31st March 1985, 18 schemes covering a total of 45.29 Kms. were completed (involving expenditure of Rs. 484.61 lakhs excluding the cost of pipe for one scheme which was not available against the estimated cost of Rs. 425.16 lakhs) and 4 schemes covering 9.54 Kms. were in progress (March 1985). The work on the remaining 3 schemes is yet to be taken up. The Department accepted that the ducts constructed were defective in many cases and water was flowing inside the chambers causing blockage of ducts, rendering the existing cable liable to be damaged and laying new ones impossible. Apart from the very purpose of constructing cable ducts having been defeated, defective construction would lead to blockage of ducts necessitating considerable expenditure on maintenance. The Department stated that seepage of water was not uncommon even in foreign countries water in ducts did not affect the cables in any way.

In course of Acceptance testing of cables for the completed schemes, it was noticed by the Department that water was dropping from almost all the pipes. This was attributed by the Department to the pipes having not been laid with due pressure and proper method

of joining. Rectificatory action was required to be taken to set right these lapses. The Department's reply is silent on the measures taken to rectify the above lapses.

21.5 *Other topics of interest—Inadequate control over utilisation of blank trunk call tickets*

Departmental rules provide that the officer-in-charge in the exchange should verify that all the blank trunk call books mentioned in the invoice are received, checked regarding the continuity of serial Nos. in each book and then fill in the certificate portion on both copies of the invoice and return one copy of it to the Divisional Officer. It was, however, noticed that in Calcutta Telephones this check was exercised only when the blank tickets were handed over to switch room daily. A list of missing tickets was prepared in respect of the tickets not found in the pads|bundles handed over. This count did not indicate the particulars of tickets received from the general section on a particular date to which the missing tickets thus detected actually relate, leaving the blank trunk call tickets remaining unreconciled. This defeated the very purpose of monitoring the blank tickets. Further, the risk of any missing bundle/bundles as a whole remaining undetected and consequential chances of fraudulent use of trunk call tickets could not be ruled out. A test check by audit revealed that the trunk tickets reported as missing during the period April 1983 to February 1984 were 11698 at the time of initial handing over, but the number of missing used-up-Trunk-tickets reported by the trunk exchanges at the time of valuation was 1162 during the same period. No action to reconcile the missing trunk tickets from exchange was taken for this period and for other periods. The Department stated (November 1985) that steps had been taken since July 1985 to maintain separate stock registers and necessary checks were being applied before the blank tickets are sent to switch room which would reduce/eliminate the scope of non-reconciliation.

Summing up

— The Department planned for increasing the equipped capacity of Calcutta Telephones by 41000 lines during 1980—85, but could achieve only 32100 lines increase by the end of 1984-85.

— Even out of the installed capacity there was a shortfall in providing new connections to subscribers as per departmental standards resulting in potential loss of Rs. 24.76 crores during the 5 years ending March 1985.

— The performance of the Calcutta Telephones was found to be the lowest in giving new connections among the metropolitan cities. The percentage of fulfilment of service demands dwindled from 63.8 per cent to nil in 1982-83 and to 2.2 per cent in 1984-85.

— The operating efficiency of Calcutta Telephones was much below the target and the lowest amongst the metropolitan cities. On an average 1.21 lakhs telephones were having complaints per month and 0.68 lakh telephones were found faulty per month. The average duration of faults was in excess of prescribed limits ranging from 129 per cent to 338 per cent during 1980-81 to 1984-85.

— Department lost revenue of Rs. 5.85 crores due to ineffective trunk calls during the five years ending 1985.

— The percentage of failure on STD calls per month in the National trunk dialing service ('0' level) was the highest in Calcutta amongst metropolitan cities and the percentage of failure during 1984-85 was 91.6 against 40 prescribed by the Department.

— The percentage of failure of inter-exchange calls was also the highest in Calcutta Telephones and was 861 per cent above the prescribed targets.

— The average earnings per DEL was less than the target fixed and continued to be the lowest amongst metropolitan telephone districts during the last 4 years resulting in shortfall of revenue of Rs. 35.04 crores.

— The ratio of local operating expenses to local operating revenue was the highest for Calcutta amongst metropolitan group, due to higher maintenance cost.

— Slippages ranged from 5 to 46 months in the execution of 4 projects out of 5 projects reviewed by Audit, while the percentage of excess over the sanctioned cost varied between 32 and 93 per cent.

— Percentage of call failures continued to be high even after upgradation of Penta Conta Cross-bar exchanges.

— Out of 27 strowger exchanges of Calcutta Telephones 14 exchanges have outlived their lives.

APPENDIX II

Statement of Observations and Recommendations

Serial No.	Para No (s)	Ministry/Department concerned	Observations/Recommendations
1	2	3	4
1	2 26	Department of Telecommunications.	The Committee find that the Calcutta Telephones had an equipped capacity of 2.01 lakh telephone lines as on 1 April, 1980 and the Department targetted a further addition of 0.41 lakh lines during 1980—85 against which only 32,100 lines could be installed showing an overall shortfall of 22 per cent in achieving the targets.
2	2 27	Do.	Explaining the reasons for this huge shortfall in achieving the targets, the Department of Telecommunications stated that "equipment and cables could not become available in time. To some extent this has been inherent in the system of planning adopted where establishment of indigenous production of equipment and cables etc. is dependent on the allocation from the Department of Telecommunications in each successive Five Year Plan. Besides, there were other reasons like general demoralisation of staff in Calcutta. In one specific case commissioning of a 3,000 lines Exchange was delayed due to damages to equipment in transit and consequent time taken on obtaining replacement of equipment."

3	2.28	Do.	The Department of Telecommunications also stated that the cable requirements and availability indicates that there have been persistent shortages and, in a situation where the requirements are continuously expending, the only way to ensure that there are no shortages will be to establish adequate indigenous production in the light of long term perspective plan rather than on the basis of actual allocations in each Five Year Plan.
4	2.29	Do.	The shortfall of 22 per cent in providing new telephone lines only indicates that the project planning and implementation machinery remains as weak as before. There is no logic behind laying down the schedule which cannot be scrupulously adhere to. The Committee also feel that if the Department had monitored the implementation of the project closely, identified areas of slippage and had taken timely corrective measures the targets could have been achieved. The Secretary, Department of Telecommunications stated during evidence that "during the Sixth Plan period, the slippage in our overall target was about 30 per cent or something like that." It was also brought out that there were other reasons like general demoralisation of staff in Calcutta for non-achieving of targets. The Committee cannot but view with concern this disquieting situation and would urge the Government to take urgent and effective steps to revamp the administrative machinery, by motivating the staff taking appropriate steps and ensuring deterrent action against defaulting officials.

1	2	3	4
5	2 30	Do.	The Committee also note that in Calcutta, as on 1-1-1987 a long waiting list of 35,629 registrants for new telephone connections is pending. It is also disquieting to note that there were cases of theft and damage to equipment. The Government should take adequate steps to ensure that loss to Government property is scrupulously avoided. The Department has proposed a "perspective plan for the year 2000 so that telephone connections can be provided practically on demand." If this target has to be achieved it will be necessary to have a reasonable commitment of the required funds to establish the necessary indigenous production of the required equipment, cables etc.
6	2.31	Do.	In view of the dismal state of affairs of Calcutta Telephones and the fact that the performance of Calcutta Telephones has been the lowest in giving new connections among the metropolitan cities, the Committee feel that it is imperative to have an integrated perspective plan for overall improvement on the existing lines and installation of new lines by providing concentration of resources and production, modernisation and indigenisation of equipment. The whole effort should be planned with care and executed within a time frame systematically. The Committee will like to be apprissed of developments in this regard.
7	2.32	Do.	The Committee would like to point out that the demand on date indicating that there was a waiting list of 35629 as on 1-1-87 may

			not be a realistic assessment. This is another area where demand is generated by supplies. While considering the future expansion facilities the Government should take into account constraints like inefficient service, abnormal delay in getting new connection and corruption etc. due to which people may be reluctant to register for new connections. Thus improvement and efficiency in service is bound to generate more demand for new lines.
8	3 47	Do.	As per Audit Paragraph, even out of the installed capacity there was a shortfall in providing new connections to subscribers as per departmental standards, resulting in the potential loss of Rs. 24.76 crores during the 5 years ending March, 1985. The under-utilisation has been attributed mainly to insufficiency of external network, difficulty in getting road cutting permission etc.
9	3 48	Do.	The Committee are pained to find that while on the one hand the waiting list for new connections had been getting longer each year, on the other hand the spare unutilised capacity had also been increasing. This led to loss of potential revenue. The Department has stated that due to the shortage of cables and other associated material, there was under utilisation of capacity. This leads to the inevitable conclusion that planning and montioring of the scheme was faulty and tardy. The Committee would urge the Government to see that there are no shortages in the execution of work and stores requirement are planned in advance so that work orders are executed efficiently within the prescribed time schedule resulting in optimum utilisation of capacity.

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10	3.49	Do.	The Committee, however, note that as on 31-5-1986, 2,05,386 telephones were working as against the installed capacity of 2,39,900. The utilisation, thus, works out to 85.6 per cent.
11	3.50	Do.	The Committee also find that the percentage of fulfilment of service demands for providing new telephone connections dwindled from 63.8 per cent in 1981-82 to nil in 1982-83 and to 2.2 per cent in 1984-85. The Department of Telecommunications have stated that "the basic norm for providing a new telephone connection, once an advice note is issued, is 15 days. The percentage of telephone connections that could be provided within this norm in Calcutta came down steeply." This, according to the Department, occurred due to rather steep increase in damages to the cables and consequential difficulties in maintaining the records of spare pairs available. Deficiencies in providing cabinets and pillars had not been attended to. The Department of Telecommunications have admitted that "there has been a planning deficiency...A lesson has been learnt and it is the intention to ensure all steps necessary for quality and reliability of services."
12	3.51	Do.	The Committee desire that the planning and monitoring processes should be refined so that the prescribed norm of 15 days for providing a new telephone connection is scrupulously adhered to.

13	3.52	Do.	The fact that the percentage satisfaction for service demand was 2.2 per cent in Calcutta in 1984-85 as against 67.7 in Delhi and was the lowest among the metropolitan cities in India is indeed a sad commentary of the working of Calcutta Telephones. The Committee find it imperative that urgent steps are taken to improve the existing dismal state of affairs.
14	3 53	Do.	The Audit Para points out that in the past few years (1980—85) the number of telephones having complaints/faults has been unduly large, beyond the permissible limits. On an average 1,20,604 telephones were having complaints per month and 67,749 remained faulty per month. Even the duration of the faults has also been in excess of the prescribed limits of the Department, ranging from 129 per cent to 338 per cent during 1980-81 to 1984-85. It was the highest amongst the metropolitan cities.
15	3 54	Do.	The Department of Telecommunications stated that "the number of complaints and faults are not unduly large considering the inadequacies of the external plant of the Calcutta Telephones. It is, however, true that rectification of faults takes long time." The Department have since taken steps to bring down the number of complaints. As a result of these steps the number of complaints has come down from 44.6/100 stations in 1981-82 to 37.6/100 stations in 1985-86 and faults have also come down from 26.5/100 stations in 1981-82 to 20.1/100 stations in 1985-86; and the duration of faults have come down from 67.4 hours in 1981-82 to 33.9 hours in 1985-86.

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16	3.55	Do.	The Committee note that as on 25-2-87, on an average, 40 per cent of faults get cleared within a day and 75 per cent are cleared within 7 days. More than one week pending faults have also been brought down "from 8000 three months ago to about 700 now". A special programme has been mounted to significantly bring down the duration of faults. Special parties are pressed into service to see that long pending faults are removed on priority. There is also significant improvement in the morale of the staff and "it is hoped that this will be maintained." One of the reasons given for unsatisfactory functioning of telephones and a large number of complaints in Calcutta as compared to other metropolitan cities is the difference in external plant due to narrow road surface, damages to cables, old cables/network, lack of cabinets and pillars, etc. The Committee urge that Government to look into these problems with due promptitude and take effective remedial steps to plug these loopholes. The Committee would be interested to know further developments in this regard.
17	3.56	Do.	The Committee were informed during evidence that "in the case of Calcutta, recently on experimental basis, we have issued an order that if a telephone is out of order for 15 days or more, we give a rebate. It is exclusively for Calcutta. It is not yet available to the rest of the country". Secretary, Telecommunications, further stated "as a matter of fact, we are considering even reducing it to one week.

It required amendment of the Indian Telegraph Rules". He furtner observed "as a matter of fact, I am pursuing through my General Manager that this refund should be automatic". The Committee is of the view that the public should not be forced to pay for the inefficiency of the Telephones Department and that the Government should amend the rules authorising suo motu refund of rent to subscribers in case of telephones remaining out of order continuously for a week and more. The Committee should be apprised of further developments in this regard.

18 3 57 Do.

Another disquieting feature noticed by the Committee is the high rate of ineffective trunk calls. During the five years period ending 1985, the Department lost revenue of Rs. 5.85 crores. Even "in 1985-86 a group target for effective trunk calls for the Metropolitan Districts was 67.9, but for Calcutta it was 57.0. The actual achievement in Calcutta was still less—53.7". The ineffective trunk call not only results in loss of potential revenue but also causes nagging hardship to the public and discourage booking of more calls. The situation needs immediate attention and close monitoring measures in improving trunk call facilities to avoid loss of potential revenue to the exchequer. The Committee have also been informed that an incentive scheme has been introduced in July 1986 to reduce the number of ineffective trunk calls. While welcoming this step, the Committee feel that it is essential to keep a close watch over the performance of trunk call operators and all cases of procrastination should be dealt with firmly.

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19	3.58	Do.	The Committee are also concerned at the high percentage of failure of S.T.D. calls, which is regrettably the highest amongst the metropolitan cities. It was an alarmingly high percentage of 91.6 in 1984-85. This high percentage of failure is symptomatic of the dismal state of affairs of Calcutta Telephones. All out effort needs to be made to improve the transmission media, the intervening trunk automatic exchanges and the distant network.
20	3 59	Do.	The Committee note that a crash programme of upgrading the performance of the existing trunk automatic exchanges has been launched and it is proposed to instal only digital electronic trunk automatic exchanges in future. The Committee hope that concerted efforts would be made to improve the percentage of effective S.T.D. calls and the Government would closely monitor the progress in the implementation of these schemes.
21	3.60	Do.	The Committee find that the average earnings per Direct Exchange Line per month (Local+STD+Trunk Revenue) were far below the fixed targets and continued to be the lowest amongst the metropolitan telephone districts during the four years 1981-82 to 1984-85, resulting in shortfall of revenue of Rs. 35.04 crores. Among other reasons, for this shortfall in revenue, the Department have attributed this to "long duration interruption in service. Unsatisfactory performance of Calcutta Telephones network and the high call failure rates, naturally, discourage traffic." The revenue

			earned in Calcutta Telephones has remained the "lowest compared to other metro districts because of lower business, trade and industrial activity. The percentage of subscribers making only the free allowance calls has been the highest for several decades among the metro and major cities. In Calcutta about 66 per cent of the subscribers make local and S.T.D. calls within the free call limits, compared to 25 per cent only in other metropolitan cities."
22	3.61	Do.	As stated by the Department themselves, the targets per DEL "will require to be re-examined and revised taking into account the situation", and "measures for upgradation of switching system and of external plant are being taken". The Committee would like to be apprised in due course of the results of these measures. In this connection, the Committee note that the revenue per DEL has shown improvement from 1982-83 onwards (being: 1982-83 275, 1983-84 271, 1984-85 301, 1985-86 313).
23	3 62	Do.	The Committee are not happy at the high incidence of wrong billing of the telephone charges. The percentage of such wrong billing varied between 10.52 and 12.98 during the years 1980—84. These wrong billings occurred mainly due to spurt in meters, incorrect meter readings and wrong punching by the data processing section. The Calcutta Telephones have been paying rebate to the consumers on account of spurt in meters and sums of Rs. 13.35 lakhs, Rs. 6.73 lakhs and Rs. 11.64 lakhs were paid, respectively, in the years 1983-84, 1984-85 and 1985-86.

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24	3 63	Do.	While the Committee realise that it may "not be possible to completely eliminate the spurts" in meters, malfunctioning of equipment in the Exchange needs to be checked at regular intervals so that spurts in meters are avoided which would obviate loss of revenue due to low metering, wrong punching, etc. Substantial reduction, if not total elimination of the wrong billing will improve the credibility of the Telephones Department.
25	4 43	Do.	The Committee find that out of 27 strowger exchanges of the Calcutta Telephones, 14 exchanges have outlived their lives. The Committee note that replacement equipments have been allotted for all the outlived equipments and would be commissioned during the Seventh Five Year Plan. The Committee also note that as compared to other metro Telephone Districts, the extent of replacement required is the highest—39 per cent (Bombay: 4.11 per cent, Delhi: 2.6 per cent, Madras: 8.3 per cent). The implementation of these schemes need to be closely watched and the Committee cannot but caution the Government to ensure that these are got executed within the time frame, settled well in advance. The Committee need hardly emphasise that delay in implementation of schemes have grave financial implications.
26	4.44	Do.	In regard to the Penta Conta Cross bar exchanges manufactured by a foreign firm of Belgium, which were added to the network, as per decision taken in 1962, the Committee find that their

			performance was found to be extremely poor and the percentage of call failure continued to be high even after their upgradation. The Department of Telecommunications have stated that the upgradation of the cross bar exchanges mainly took care of the contact protection and minor circuit exchanges. The absence of air conditioning due to power shedding has had deleterious effect on their performance. As stated by the Department "candidly speaking, the selection of Penta Conta cross bar system had been a mistake. Conceptually, the system was the most modern at the time it was selected. However, the system had not been fully field proven and, eventually, it proved to have certain weaknesses".
27	4 45	Do.	In this connection, the Committee note that "to guard against a similar error, it is now being insisted that any new technology adopted is fully proven before its large scale introduction in the network" and "in retrospect it is seen that there had been an error of judgement in placing too much store on attractive conceptual features against field provenness criteria".
28	4 46	Do.	The Committee hope that the Government would exercise due care and closely analyse all relevant factors before going in for new equipment so that mistakes of this nature are not repeated in future.
29	4.47	Do.	The Committee note that the Department of Telecommunications is contemplating a multi dimensional approach to boost the efficiency of the Calcutta Telephones. The main thrust towards

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			improvement in telephone services is by way of introduction of modern technologies in both switching equipment and external plant. Parallel action is also being taken to make the monitoring of system performance more effective and meaningful through improved management techniques and use of computers. Computerisation of various services/activities like Directory Enquiry, commercial records, billing, cable records, inventory control, etc. are at various stages of implementation.
30	4.48	Do.	In addition to the above mentioned steps to give Calcutta the necessary inputs of modern equipment and technologies, special effort is also being made to improve the morale of the staff. Selected staff is being posted to Calcutta. Frequent meetings are being held by senior officers from the directorate with the officers and staff in Calcutta and they are being encouraged to improve the performance; and their efforts are being watched and whenever they achieve success, suitable appreciation is given.
31	4 49	Do.	The Committee further note that the Department of Telecommunications have proposed a perspective plan for the year 2000 so that telephone connections can be provided practically on demand. It will, therefore, be necessary to substantially expand the network using the modern technologies and practices which would ensure high quality and reliable services. This will call for expanding the number of telephone connections from the present 32 lakhs to about

			2 crores by the year 2000, which will mean stepping up the rate of growth from 7 to 8 per cent p.a. exponential to about 15 to 16 per cent p.a. exponential. This will necessitate significantly higher resources and therefore higher borrowings. To meet these requirements, it will be necessary to invest about Rs. 45000 to Rs. 50000 crores of rupees upto the year 2000. As stated by the Department, with the continuously improving services, it should be possible to generate about 50 per cent of this investment internally, the remaining 50 per cent will have to be mobilised from public through suitable instruments.
32	4.50	Do.	The Committee hope that the Department of Telecommunications will make all out efforts to implement their plans for rehabilitating the Calcutta Telephones.
33	4 51	Do.	The Committee also note that to improve telecommunication facilities in metropolitan cities of Delhi and Bombay a Corporation viz. Malnagar Telephone Nigam has been established and seems to have improved the telecommunication facilities in these places. The desirability of converting the Calcutta Telephones into a Corporation requires consideration by the Government.
34	4 52	Do.	This is the first time that a full review of the Calcutta Telephones has been done. Earlier, performance of a telephone exchange of the Calcutta Telephones came to be reported upon by the Comptroller and Auditor General of India and examined by the Public Accounts Committee. The Committee had also made their recom-

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			mendations earlier in their 153rd and 229th Reports (7th Lok Sabha). The recommendations made by them in their earlier Reports were not implemented. There has been a further deterioration in the performance of the Calcutta Telephones. This matter must, therefore, be taken up seriously by the Government.