C. P. U. No. 227

COMMITTEE ON PUBLIC UNDERTAKINGS (1972-73)

(FIFTH LOK SABHA)

THIRTY-FOURTH REPORT

INDIAN TELEPHONE INDUSTRIES LTD.

(Ministry of Communications)

LOK SABHA SECRETARIAT
NEW DELHI
April, 1973/Chaitra 1895 (S)
Price Rs. 4·90

C O R R I G E N D A

THIRTY-FOURTH REPORT OF THE COMMITTEE ON PUBLIC UNDERTAKINGS (FIFTH LOK SABHA) ON INDIAN TELEPHONE INDUSTRIES LIMITED.

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(1972-73)

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3. Shri M. N. Kaul—*Under Secretary*

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*Died on the 7th February, 1973.

COMPOSITION OF STUDY GROUP ON INDIAN AIRLINES AND TELEPHONE INDUSTRIES

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2. Dr. Mahipatray Mehta—*Alternate Convener*
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5. Shri Murasoli Maran
6. Shri Ranen Sen
*7. Chaudhary A. Mohammad
8. Dr. Kailas
9. Shri Lal K. Advani.

*Died on the 7th February, 1973.

INTRODUCTION

I, the Chairman, Committee on Public Undertakings having been authorised by the Committee to present the Report on their behalf, present this Thirty-fourth Report on Indian Telephone Industries Ltd.

2. This Report is based on the comprehensive appraisal of the working of the Indian Telephone Industries Ltd., done by the Comptroller and Auditor General of India as contained in the Central Government Audit Report (Commercial), 1970 Part VI and also on an examination in depth of the working of Indian Telephone Industries Ltd., upto the year ending 31st March, 1972.

3. The Committee on Public Undertakings took evidence of the representatives of the Indian Telephone Industries Ltd., on the 18th August, 1972 and of the Ministry of Communications on the 29th September, 1972.

4. The Committee on Public Undertakings considered and finalised the Report at their sitting held on the 6th April, 1973.

5. The Committee wish to express their thanks to the Ministry of Communications and the Indian Telephone Industries Ltd. for placing before them the material and information they wanted in connection with the examination of the Indian Telephone Industries Ltd. They wish to thank in particular the representatives of the Ministry and the Undertaking who gave evidence and placed their considered views before the Committee.

6. The Committee also place on record their appreciation of the assistance rendered to them by the Comptroller and Auditor General of India in connection with the examination of the Indian Telephone Industries Ltd.

NEW DELHI;
April 19, 1973.
Chaitra 29, 1895 (*S*).

SUBHADRA JOSHI,
Chairman,
Committee on Public Undertakings.

I

INTRODUCTORY

A. Historical Background

1.1. The Indian Telephone Industries which was the first national industry to be started after independence was set up in Bangalore in July, 1948 as a departmental undertaking of the Government of India for the manufacture of telephone and telecommunication equipments in collaboration with M|s. Automatic Telephone and Electric Company Ltd., U.K., primarily to achieve, as far as possible, self-sufficiency in regard to telecommunication requirements of the country. Formerly the requirements in respect of telephonic equipment, apart from those manufactured in the P. & T., workshops, were mostly imported. The undertaking was incorporated as a company on 25th January, 1950. The objects of the Company are to manufacture, assemble, buying and selling, etc., of telecommunication equipments.

B. Foreign Collaboration

1.2. In order to obtain essential know-how and technical assistance for the purpose of establishing a Telephone Factory in India, the assistance of foreign firms of repute who were specialists in this line was sought. After negotiations with a number of foreign manufacturers, Government of India entered into an agreement with M|s. Automatic Telephone and Electric Company Limited (A.T.E.) of Liverpool (U.K.). Production commenced with the manufacture of the strowger type of telephone exchanges and equipments. This collaboration agreement came to an end in May, 1963.

1.3. In the meantime the ITI had taken up manufacture of long distance Transmission Equipments based on the know-how developed mainly by the Company. In view of the significant developments which had taken place in the field of telecommunications, the Company and Government of India entered into a collaboration agreement for the manufacture of Crossbar telephone switching equipment in May, 1964 with M|s. Bell Telephone Manufacturing Company of Belgium (BTM), subsidiary of the International Standard Electric Corporation of America (ISEC) which is a subsidiary of the International Telephone and Telegraph Corporation.

of U.S.A. This agreement expired on the 20th May, 1971 and was extended by one year for the benefit of the ITI without any payment of royalty. It was further extended upto May, 1973 keeping in view the benefits being derived by the Company from the Collaborators.

C. Expansion

1.4. Besides the factory at Bangalore, the Indian Telephone Industries established a second factory at Naini (Allahabad) without any outside collaboration but with the know-how available in Bangalore for the manufacture of Transmission equipment to supplement its production at Bangalore. Work on the factory commenced in June, 1970 and the factory went into production in October, 1971.

1.5. Another factory at Naini for manufacture of telephone instruments, P.O. Meters and spares was sanctioned by Government of India at an estimated cost of Rs. 737 lakhs. Construction work on the Project was started in February, 1972. The Project is expected to go into production in 1974-75.

1.6. An Ancillary Unit of ITI was set up during 1970 at Srinagar in the State of Jammu and Kashmir for the manufacture of fuses and cords. The work on the Project was completed in May, 1971 and the Unit was commissioned on 21st May, 1971. During 1971-72 the sales from the Unit amounted to Rs. 13.56 lakhs. With a view to provide more employment in the region and to offload manufacture of spares to be supplied to the customers, the Company has taken up expansion of the Unit. The expansion scheme is under implementation.

1.7. In addition to the projects already under implementation, the Government have recently approved a proposal to set up another factory at an estimated capital outlay of Rs. 18.7 crores to manufacture 300,000 lines of telephone switching equipment of cross-bar type per annum in two shifts working. It has been decided to locate the factory at Rae Bareli (U.P.). The production in the factory is expected to be started in the fifth year after the availability of site and would be built up in stages to ultimate capacity in another four years.

D. Examination of ITI by Estimates Committee

1.8. The working of the Indian Telephone Industries Limited was examined by the Estimates Committee (1957-58). The Esti-

mates Committee presented to Lok Sabha their Eleventh Report on the working of the Company on the 24th March, 1958. The Hundred and Fifth Report of the Estimates Committee (1960-61) on the Action Taken by Government on the recommendations contained in the Eleventh Report of the Estimates Committee was presented to Lok Sabha on the 17th January, 1961.

II

MAX AND TRANSMISSION DIVISIONS

A. Agreement with ATE

2.1. In accordance with the terms of the Collaboration agreement with the ATE (Automatic Telephone & Electric Company Ltd., U.K.) the agreement expired in May, 1963 after the duration of the period of 15 years stipulated in clause 3 thereof. The following payments have been made by the Company to the Collaborators under the agreements:—

(a) Payment for the patent rights and manufacturing data made available at the commencement of agreement (in cash and equity shares in equal proportion).	£100,000
(b) Payment for:—	
(i) supply of manufacturing data and information throughout the life of the agreement (i.e. 15 years) reckoned at 1 ½% of the invoiced output less the amount of equipment already invoiced and embodied in the said output and	
(ii) Technical development and research @½ of [the invoiced output referred to above.	£ 262,394-11-10
(c) Payment for the services of experts, technicians, tools designing and detailed layout of factory, etc. . . .	£ 40,460
TOTAL :	£ 402,845-11-10 (Rs. 53,78,480)

In addition, Indian taxes paid by the Company in terms of the agreement on behalf of collaborators amounted to Rs. 58,36,363.

B. Capacity, Production and Programming

2.2. According to the Company, the capacity of the MAX and Transmission Divisions in terms of the main products is not capable of precise determination due to the large and varying product-mix from year to year as a result of the development of the equipments for different routes and customers on tailor-made basis.

Consequently, the capacity of the Divisions from year to year had not been assessed. The production schedules are stated to be prepared taking into account the availability of machines equipments as also the forecast and orders received from P. & T., Defence, Railways and others.

2.3. The Committee enquired whether there were any difficulties in expressing the performance in respect of Transmission Division in quantitative terms. It was stated that " rapid changes take place in the product mix in the Transmission Division due to evolution of modern sophisticated technique in electronic circuitry and design, up-dating of mechnical construction and the special needs of various customers involving new developments and new problems. In view of this, there is no fixed capacity, for comparison. The targets are formulated, therefore, from year to year in terms of equipment units|components of the type that have to be produced. The actual performance is judged against such targets."

2.4. The table at Appendix I indicates the capacity (on the basis of principal items of manufacture) of the MAX and the Transmissions Division estimated by the Company in January, 1970 on the basis of its past experience for three years ending March 1969 together with the annual production targets fixed and the achievements.

2.5. The following aspects emerge from the data given in Appendix I.

(i) **Max Division**

(a) The original targets fixed by the Company generally exceeded the capacity stated to be available (except in case of Telephones in 1966-67 and 1967-68 3000 type Relays in 1966-67 and 1968-69 to 1970-71 Relay sets in 1969-70, 1970-71 and 600 type Relays in 1967-68 and 2000 Type Selector in 1970-71 during the five years from 1966-67 to 1970-71. Even the revised targets fixed were higher than the capacity in respect of Multiple Racks, Miscellaneous and Composite Racks (in 1966-67 and 1967-68), 600 Type Relays (in 1966-67 and 1968-69), 3000 Type Relays (in 1967-68) and 2000 Type Selectors and Small Exchanges (in 1966-67).

(b) The actual production was generally less than the capacity and the targets upto 1970-71.

(ii) **Transmission Division**

(a) The overall capacity in terms of value remained constant at Rs. 4 crores in 1966-67 and 1967-68 and increased to Rs 5 crores in 1968-69 and Rs. 5.5 crores in 1970-71. This was mainly due to increased costs.

(b) The value of production increased from year to year. However, the same was less than the available capacity in all the four years from 1966-67 to 1969-70.

In this connection, the Management have stated (February, 1970) as follows:—

(a) The types of telephones produced and the percentage on which the capacity is worked out is 8 whereas actually 19 different types are produced in the Telephones Division.

(b) In the automatic Exchange Division, substantial quantities of other items and class B and maintenance spares were also produced.

2.6. The Company explained in a Written Reply that the revised targets were normally prepared during October/December each year and the various factors responsible for shortfall were taken into account while finalising the revised targets.

2.7. The shortfalls in production have been attributed by the Management to the following factors:—

(i) Fixing of factory production targets at high levels as an incentive for achieving higher production (1965-66 to 1968-69).

(ii) Change in the pattern of production for MAX and Transmission equipments (1965-66 to 1968-69).

(iii) Break-up of production line to meet the Defence requirements (1965-66).

(iv) Disturbed labour relations (1966-67).

(v) Continued and intermittent shortages of materials (1968-69).

(vi) Non-receipt and non-availability of imported stores (1968-69).

2.8. As for the reasons for shortfall in production in view of the statement at (i) above, it was stated in a written reply that the production targets were made on the basis of 100 per cent efficiency. The shortfall arose because of inadequate receipts of raw materials components/piece parts in sufficient quantities and of the prescribed quality. The labour efficiency was also less than 100 per cent.

In the Annual Reports for the years 1969-70 and 1970-71 the following reasons were given for shortfall in production with reference to targets:—

Annual Report for 1969-70

(a) Imbalance in materials due to shortage of foreign exchange.

(b) Indigenous suppliers not being able to keep up their supplies in quality and quantity.

(c) Import restrictions effecting the import of essential raw-materials and components for which alternative indigenous sources were not easily available.

(d) Delay in clearance and issue of licences.

Annual Report for 1970-71

There was shortage of raw materials and purchased components on account of the following factors:—

(i) Difficulties experienced in procurement of raw materials and components with delays in obtaining import licences.

(ii) The market situation being that of seller's market and in particular, the difficult steel supply situation.

(iii) Certain delays in supplies from United Kingdom due to dock strike in U.K.

(iv) Unsatisfactory suppliss from indigenous procurement sources of components, one important item being that of "fine guage enamelled copper wire."

2.9. In regard to the steps taken to ward off delays in obtaining import licences and also the measures adopted to see that the supplies of indigenous components were received well in time, the Company stated as follows:—

"(a) Delays in obtaining import licences were for two reasons. Firstly there was inadequate allocation of free foreign exchange and what was allocated was mostly in the form of Credit which was difficult and time consuming to utilise. The other reason for delay was the time-consuming procedure in securing clearances from the DGTD and consequently in securing an import licence. With the direct allo-

cation of foreign exchange in the form of IDA Loan available exclusively for import of raw materials and components by ITI, the first difficulty has been solved. Free foreign exchange became available from 1970 onwards enabling orders being placed for requirements for 1971-72 production.

The difficulty has been solved to some extent by discussions and negotiations, at a high level, between the representatives of the World Bank, the Ministry of Communications, the Ministry of Finance and the Ministry of Industrial Development. As a result of these discussions, a standing import licence valid for two years has been secured with a broad generic list of items which are critical for manufacture and which could be imported at short notice to maintain level of production. Additional foreign exchange has been made available by the World Bank to enable a buffer stock of critical raw materials and components to be maintained as an insurance against delays in supplies."

"(b) Failure of supplies from indigenous sources has been on two grounds. Firstly, in terms of punctuality and quantity of supply etc. and secondly, in acceptable quantity. Ordering has been advanced so that the supplier is given sufficient time to programme manufacture and supply of material to ITI. Secondly, as emany alternative sources as possible have been established by placement of educational orders, and providing assistance in inspection and quality control etc. to suppliers. In some cases where it has been established that indigenous capacity does not exist, the ITI has taken up with the DGTD either for licencing of additional capacity or for import of balancing machinery, spares etc. which would enable full utilisation of licenced capacity. Long term requirements of ITI in terms of critical raw materials have been projected to the DGTD so that he may examine the capacity available within the country and what additional capacity is to be set up to meet this demand.

As a means of improving the quality of supplies, ITI has assisted the suppliers with inspection equipment guages etc. of adequate accuracy. In many cases, inspection of finished materials has been arranged at the manufacturer's premises enabling a much better control on quality both of production and supply."

C. Decline in efficiency

2.10. An incentive scheme was introduced in the Company in June, 1958 covering a few shops and subsequently extended to other shops. A revised incentive scheme was introduced in November, 1962 for a period of 3 years with effect from 1st April, 1962. On a review of this scheme in December, 1965 it was observed that the efficiency of the workers had gone down from 110.4 per cent in 1963-64 to 107.58 per cent in 1964-65 and to 105.01 per cent in July, 1965.

A further revised scheme was introduced in December, 1965 with retrospective effect from 1st April, 1965 to be effective upto 30th June, 1969. While approving this scheme in December, 1965 it was expected that the factory efficiency would improve appreciably and that the scheme would be reviewed after one year in the light of actual efficiency achieved.

Now review was however, undertaken till October, 1968 when the Scheme was further modified with effect from 1st December, 1968 to make it more effective.

It would be seen from the data given below that even after revision of the scheme on two occasions, the overall efficiency did neither improve nor remain stable; instead, it showed a declining trend over the 1965-66 base. The decline was more steep after the revision of the Scheme in December, 1968:—

Year	*Efficiency percentage*
1965-66	105·98
1966-67	103·02
1967-68	104·15
1968-69	99·86
1969-70 Ranging from (April , 1969 to August, 1969)	86·99 to 96·66

2.11. The Company attributed (July, 1969) the following reasons for decline in the overall efficiency of the factory since 1964:—

"(a) There were two labour strikes in 1964-65 and 1966-67 preceded by labour agitations, due to which the tempo in working came down and did not pick up to the satisfactory level till now.

(b) There were occasional material shortages which interfered in the continuous loading of the jobs.

(c) Placement of additional shops under incentive.

(d) Diversification of products and frequent design changes, particularly in Transmission Division."

2.12. The Management stated that the scheme introduced on an experimental basis w.e.f. 1-12-68 was reviewed by them and it was found (Jan. 1970) that "although it is working, by and large, satisfactorily, certain modifications would be called for on aspects like ceiling on incentive earnings, increase in hourly incentive rates, lowering of second base efficiency, etc. and this is under active consideration." The percentage of efficiency achievement by each of the shops and amount of incentives direct as well as indirect for the periods ending 31st March, 1972 are mentioned in Annexure II.

2.13. It would be seen from Appendix III that the efficiency constantly remained below 100 per cent in Auto-shop, Frame works, Rack wiring, X Machine shop, Channelling Assembly. Besides, it would also be seen that the amounts paid by way of incentive both direct and indirect showed an upward trend from 1965-66 to 1967-68 and again in 1971-72.

The amounts of incentive (direct and indirect) paid for 1965-66 to 1971-72 were as follows:—

(Rs. in lakhs)

Year	Direct	Indirect
1965-66	10·89	12·77
1966-67	11·41	12·57
1967-68	11·45	13·72
1968-69	10·67	12·04
1969-70	9·15	9·16
1970-71	9·62	9·60
1971-72	12·24	12.94

2.14. The Management stated in a written reply that the labour efficiency for the period 1969-70 to 1971-72 and the reasons for the decline in efficiency were as under:—

1969-70	91·88%
1970-71	90·28%
1971-72	91·86%

Though the overall efficiency from 1969-70 had recorded a decline as compared to the efficiency in 1968-69, some shops had shown an upward trend and nearly 45 per cent of the shops were above 100 per cent efficiency level. Also, there were frequent diversions of operators' efforts from one job to another due to interruption in continuity of production as a result of material shortages, frequent changes in production set up to cater to priority schedules of customers for a large production mix, substandard indigenous raw materials and production tools and a general disinclination of operatives towards incentive earnings.

It was also stated that the efficiency for 1971-72 recorded an increase of 1.58 per cent over 1970-71 and 16 out of 29 shops registered an increase in efficiency as compared to 1970-71.

2.15. The Committee regret to note that no serious effort has been made to determine precisely the capacity of the MAX and Transmission Divisions from year to year.

The targets and actual production have been indicated in the Transmission Division in terms of value alone. In view of the fact, that targets of production of the various items had to be varied from year to year depending upon the product-mix and in view of the fact that value of production could rise on account of price and quantity variance and other factors, the Committee feel that there was no clear-cut yardstick available to the Management for evaluating the efficiency in production performance. The Committee recommend that keeping in view the past performance and the likely types of orders to be received, it should be possible for the Company to make an accurate assessment and fix the capacity for evaluating the performance with reference to such targets.

2.16. The Committee find that, on the one hand, the Management stated that the production schedules were prepared taking into account the availability of machines, equipments and also the forecast of the orders, on the other hand the Management attributed the shortfall in production to the fixation of targets deliberately at a higher level as a measure of incentive for higher production.

2.17. The Committee also found (vide Chapter VI) of this report that sales performance of the Company revealed that the Company failed to achieve the budgeted sales from year to year mainly on account of non-achievement of quantitative targets. The Committee

note that in some years the original targets fixed for some items by the Company exceeded even the capacity stated to be available. Even when the targets were revised taking into account the various factors, they were found to be in excess of the available capacity in some cases and the actual production fell far short of targets as well as available capacity. The Committee cannot but conclude from all these factors that the targets were not being fixed on rational and scientific basis. The Committee feel that fixation of targets at a higher level earlier and slashing down later is not a healthy practice in production planning as it gives a misleading picture of the performance of the undertaking. The Committee, therefore, again stress that all out efforts should be made to fix the targets on a more rational and scientific basis taking into consideration all the factors concerned with production and the company should take adequate steps to ensure that the targets are actually achieved.

2.18. The Committee note that the actual production generally fell short of the targets both in the MAX and Transmission Divisions from 1966-67 to 1970-71. The Committee were informed that the shortfall in production was mainly on account of inadequate receipt of raw materials/components piece parts and of prescribed quality, non-receipt and non-availability of imported stores and the labour efficiency being less than 100 per cent. The Committee note that while the Company had already taken measures toward off delays in obtaining import licences and to see that supply of indigenous components are received well in time, the labour efficiency had declined from 105.9 per cent in 1965-66 to less than 100 per cent in 1971-72, although the amount of labour incentives both direct and indirect showed an upward trend from 1965-66 to 1967-68 and again in 1971-72. The Committee note that out of 31 shops now functioning, 5 shops have not attained 100 per cent efficiency at any stage while 7 shops have fallen below 100 per cent efficiency from 1969-70. The Committee are concerned to find that while the expenditure on labour incentives has increased, the efficiency has actually come down thus causing shortfall in production. The Committee note that the incentive scheme already in vogue was reviewed in January, 1970 and according to the Management, certain modifications would be called for in the Scheme and these are under active consideration. The Committee recommend that the Management should finalise the modified scheme without any further delay, ensuring that the modified scheme does not have any adverse effect. The

Committee also suggest that the Management should consider relating labour incentives to productivity so as to improve the efficiency and achieve better production performance. The Committee would also suggest that the reasons for decline in efficiency in the 7 shops should also be gone into and suitable remedial measures taken to improve their efficiency.

III

CROSSBAR PROJECT

A. *Agreements*

3.1. The Telephone Switching Systems Committee appointed by the Government of India in 1959 to recommend a Switching System suitable for adoption and economic manufacture in the country, recommended the Crossbar System. Among the Crossbar Systems found compatible and suitable for adoption were those of Bell Telephone Manufacturing Company of Belgium (BTM), LM Ericsson of Sweden (LME), and Nippon Electric Company of Japan (NEC). In February, 1964 Government decided in favour of the 'Pentaconta' Crossbar Telephone switching equipment manufactured by BTM, a subsidiary of ISEC. Two separate agreements were entered in May, 1964, one with ISEC regarding investments, loans and issue of patent licences and the other with BTM relating to the supply of know-how, machinery, tools, components and technical personnel.

(i) *Agreement with ISEC*

3.2. (i) In accordance with the terms of the agreement the ISEC has made an investment of US $ 1250,000—Rs. 59,52,400 ($500,000 in consideration for technical know-how and $750,000 in cash) in the equity shares of the company and has also advanced a loan of US $1000,000 (Rs. 65,42, 832) for financing the purchase of machinery and equipment.

(ii) The Company has been granted licence for the manufacture and sale of Contract Equipment (Pentaconta crossbar telephone Switching systems and Pentaconta equipment) for a period of seven years, including an exclusive licence to export and sell Contract Equipment for that duration to Afghanistan, Burma, Cabodia, Ceylon, Indonesia (Limited to Sumatra, Java and Bali), laos and Nepal and a non-exclusive licence to export during the lifetime of patents, Contract Equipment manufactured to any country in the world excepting certain specified countries where Pentaconta crossbar switching equipment was being manufactured or assembled by ISEC|BTM as on the date of the agreement (Clause 4, 5 and 7 of Part II).

(iii) Royalty is payable at the rate of one per cent, of the gross ex-factory selling price, excluding sales taxes and all local taxes, of all Contract Equipment manufactured in India and sold by the Compnay. The gross selling price is to be the actual selling price less the cost at the factory site of any items included therein purchased from the Collaborators and also less the price included therein of certain specified items like batteries, power plants ringers, etc. which are outside the scope of the agreement. The total amount of royalty is not to exceed the US $ 100,000 in any year.

The royalty was payable beginning two years from the effective date of agreement *i.e.* from 31st August, 1966 to 21st May, 1971 and within three months of the close of the financial year (Clause 11 and 12 of Part II). As per Clause 11 cited, the Company was required to furnish to ISEC within three months of the close of the financial year a statement certified by an independent Chartered Accountant setting forth such gross sales less applicable deductions during the year.

3.3. The Company paid Royalty for the years from 1966-67 to 1970-71 and for the period from 1.4.1971 to 20.5.71 was as follows:

Year		(Rs. in lakhs)
1966-67	0·52	Gross
1967-68	3·61	,,
1968-69	2·47	,,
1969-70	3·17	,,
1970-71	3·36	Subject to audit certification
from 1-4-71 to 20-5-71	0·39	

Royalty for the 2 years 1970-71 and 1971-72 has not yet been paid. It has, however, been computed as under:

1970-71	Rs. 3·36 lakhs
1971-72 (from 1-4-71 to 20-5-71) .	Rs. 0·39 lakhs.

Royalty was being paid to the ISEC for use of patent and other rights made available to the Company.

3.4. (2) *Agreement with BTM*

(i) According to the agreement, the BTM were:

(1) to supply all technical information knowledge and expert advice concerning manufacture, use and maintenance of the crossbar telephone switching systems and Pentaconta equipment and the installation, maintenance and operation of the required factory equipment (Clause 3).

(2) to make available the necessary engineers and technicians (Clause [4(c)];

(3) to train in their factories the personnel of ITI with living expenses of such personnel for upto 33 man-months to be borne by BTM [Clause 4(D)]; and

(4) to supply machines, tools and equipments and equipment units and other items required for the setting up of the factory and production of equipment up to 167,000 lines of Jorbagh type (Clause 5).

In consideration of the supplies to be made and by way of reimbursement of expenses, BTM were to be paid as follows:—

(a)	supply of special machines, tools and other equipments and quipment[Clause 6A(i)]	BF	190,602,500
	Supply of standard machines and tools [Clause 6A(ii)] (under deferred payment arrangements)	BF	34,114,000
		BF	224,716,500
(b)	Personnel charges [Clause 6A(iii) and 6B(ii)] .	BF	6,855,800
(c)	Credit insurance expenses paid by BTM but not exceeding 0·5% of the total amounts covered [Clause 6A(iv) and 6B(iv)] and	BF	17,682,003
(d)	Living expenses and tavelling expenses in India of BTM engineers [Clause 6A(iv), 6B (iii)]	BF	5,19,840

The amount of BF 224,716,500 represented F.O.B. prices of the machines, tools, equipments, etc. and the actual amount was to be paid at prices adjusted in accordance with the escalation formula in Clause 6(C) of the agreement. This amount was payable as follows:—

(a) 5 per cent. within 30 days of the signing of the agreement.

(b) 10 per cent of the invoice value of each shipment against shipping documents; and

(c) the balance in ten equal annual-instalments commencing from the 36th month from the date of signing of the agreement [Clause 6B (i) (a)]

In order to cover freight marine insurance and escalation charges, a Supplementary Agreement for BF 44.95 millions was entered into by Government with BTM in October, 1967 in consequence of which the total Belgian credit amounted to BF 269.67 millions.

3.5. The repayment of credit commencing from 36th month from the date of signing of agreements was apparently intended for commencing payment on attainment of full production. As however, there was delay in establishing full production, the Company could not make repayment out of its own resources.

(ii) The catalogues of special machines, tools and test equipment (Vol.I) and equipment and equipment units (Vol.II) made available by BTM at the time of signing the agreement did not contain many items ordered by the Company from time to time, as according to the Management, there were changes in the actual specifications of equipment required by the P&T in variation of the Jorbagh pattern, additional facilities asked for to be provided such as called number indentification, subscriber to subscriber dialling, single and multi link operator dialling and inter-working equipment, changes in circuitary and changes in the quantities of equipment required. When this was pointed out to BTM, a supplementary catalogue (2361 items) was received by the Company in December, 1966 listing out the various items together with prices of items ordered out by the Company till then. Even the original and supplementary catalogues together were not found exhaustive. Consequently for the items still remaining uncovered, pricing details were obtained by the Company as and when the requirements for such items came up. Most of these quotations were received during the period May-August, 1968.

3.6. In regard to items covered by the supplementary catalogue and later quoted by BTM, the escalation factors adopted were:—

(i) Prior to December, 1966; a variable percentage prevailing at mid-point date between order and delivery from December, 1966 to February, 1968; a fixed escalation of 5 per cent for components as well as tools and guages; and;

(ii) from March, 1968; a fixed escalation of 10 per cent for components and 15 per cent for tools and guages; over the quoted prices.

3.7. In this connection, the Compnay contended with BTM (April, 1969) that escalation could be applied only to the items quoted contemporaneously with the finalisation of the agreement in May, 1964 (which was based on the price indices prevailing in December, 1963 in the case of components and February, 1964 in the case of tools and guages). BTM replied (May 1969), that the

prices of the items in the supplementary catalogue and the quotations of May-August, 1968 had been worked back to the escalation indices prevailing in December, 1963. Since the Company's requirements had already become critical by this time and were urgently needed for continuity of production the Company suggested (June, 1969) that BTM might supply materials at the prices mentioned in its purchase orders subject to such adjustments as might be found necessary later or if this was not acceptable to BTM, the invoices might be based on the prices claimed by BTM and the payments treated as provisional and subject to adjustments as might be found necessary after discussion. BTM have agreed only to the latter.

The Ministry have stated (June, 1970) that "BTM has since been addressed reiterating the ITIs point of view that the application of the escalation formula as per the agreement should be limited to the prices quoted by BTM contemporaneously with the finalisation of the agreement and suggesting that the matter should be discussed and settled."

3.8. The Committee wanted to know the total value of supplies made so far to P&T and the repayments made upto 31-3-1972. The Management stated that while upto 31-3-1972 payment in respect of supplies on deferred credit made to BTM amounted to Rs. 247.53 lakhs, the value of supplies was about Rs. 32 crores and the BTM rates CIF were in the neighbourhood of Rs. 2200 to Rs. 2300 per line.

The Committee desired to know the total value of purchases made under the supplementary catalogues, the incidence of escalation, and the amount of loss suffered by the Company consequent on the delay in settlement of the issue. The Company stated in a written reply as follows:—

> "The supplementary catalogue as well as individual quotations received from BTM specified that the prices indicated therein were the 1964 catalogue prices implying thereby the claim for escalation as in the 1964 catalogue prices.
>
> Orders were placed on BTM from time to time to meet production requirements as per P&T's ordering pattern. The orders covered items enumerated in the 1964 and 1966 catalogues as also in individual quotations, and orders were not separately placed catalogue-wise or quotation-wise. In view of the large number of items and orders and the lapse of time, it is difficult at this stage to assess the value of orders catalogue-wise.

Except in regard to orders placed upto 30-11-66 which were subject to escalation as per the agreement formula, the orders placed on BTM provided for fixed amounts of escalation as agreed to between BTM and the Company, the fixed escalation having been determined solely with reference to the date of placement of the order. Fixed escalation had thus no connection with actual delivery periods and consequently delay in settlement of the issue or delay in supplies did not affect the claim for such escalation."

3.9. The Committee note that on account of the changes in the actual specifications of equipment required by the P&T in variation of the Jorbagh pattern which was stipulated in the agreement entered into in May, 1964 with BTM, the catalogue supplied at the time of entering into agreement, for special machines, tools and test equipment and equipment units did not contain many items ordered by the Company with the result that the Company had to obtain a supplementary catalogue in December, 1966. The Committee note that even the original and supplementary catalogues together were not found exhaustive and consequently for items remaining uncovered pricing details were obtained as and when necessary. The Committee are at a loss to understand why the specifications required by P&T could not have been settled well in advance of concluding the agreement with the BTM.

The Committee regret to note that the matter regarding escalation terms applicable to the items covered by the supplementary catalogue and later quotations is still pending settlement and only provisional payments have been made for the supplies received. The Committee also note that the escalation terms prescribed in the supplementary catalogues were also different from the original as indicated in para 3.6. The Committee were informed that orders were not placed catalogue-wise or quotation-wise separately but as and when required as per P&T Production pattern and it is now difficult to assess the value of orders catalogue-wise or quotation-wise separately. The Committee fail to understand as to why the terms and conditions of purchase could not be settled in advance and why orders against different catalogues and quotations were not placed separately and how payments therefor were regulated especially when the escalation terms for supplementary catalogues and later quotations were different from the original.

The Committee need hardly stress that supplies against the different catalogues and quotations should be segregated at least now and terms of escalation and payments therefor finally settled without delay. The Committee also stress that the terms and conditions of purchases should be settled well in advance of placing the orders so that the Management may know the exact contractual liability and financial implications to avoid disputes at a later stage.

3.10. During the evidence of the Ministry of Communications the Committee enquired as to the main reasons for which the agreement with the collaborators was extended from May, 1971 to May, 1972 and again from May, 1972 to May, 1973 inspite of the shortfall in production. The Secretary of the Ministry stated that at the time of expiry of the agreement in May, 1971 they had some problems both in regard to production in the ITI as well as in the maintenance of some other cross-bar exchanges supplied by the collaborators. The Secretary added:—

> "..... we felt that it would be advantageous to the Department if we extend the agreement by one more year. This is the reason; but in doing so, we cut out the royalty clause. There is now absolutely no need for the ITI to pay royalty to the BTM."

The Management stated in this connection that the extension of the agreement would enable the Company to obtain also the benefit of know-how in respect of new developments and modifications in earlier designs. During the extended period BTM agreed to supply machines free to meet the inadequate capacity. The defective designs were kept in view while agreeing to extension of agreement. No penalty clause was, however, included in extending the agreement because it did not exist in the original agreement also.

B. Defects in Design

3.11. During evidence, the Committee invited the attention of the Chairman of ITI to the statement of the Minister of Communications that there was defect in the cross-bar equipment and enquired as to what the defect was. The Chairman of the ITI stated that there were three main defects in the cross-bar equipment. Explaining the position further he stated that

> "In India, the calling pattern of our subscribers is probably the highest in the world. It is not only the total time we speak, but also the number of calls which a subscriber

initiates in the busy hours that it gives the equipment the worst possible beating... Cross-bar is a very sophisticated equipment. When you dial a six-digit number, each digit gets stored in a register. This register is the Common Equipment. We are going in for a tremendous amount of sophistications and development in communication for which this equipment is essential.

In this common equipment, what happened was that, due to the tremendous load this equipment had to work so much that the contacts burnt off and once it is burnt off, we cannot proceed.

They also found that there are certain defects in respect of what is called the Spark Quench which prevents contact burning. The BTM had used them in their equipment and they had given them no problem before.

Another defect noticed was that on certain parts there was a certain corrosion. Due to the tropical climate of India, its heat and humidity, it started corroding certain parts which was not experienced in other countries.

The third problem was that of certain circuit defects and certain changes had to be brought about."

3.12. The Committee asked why ITI could not foresee the amount of traffic in India under which the equipment had to work before placing the order with the collaborators and why circuit defects could also not be envisaged particularly when there was a telecommunications resarch centre. The Chaiman of ITI explained that the equipment which they were using in the country was inadequate to meet the latest telephone requirements. The most sophisticated system known anywhere in the world at the time of entering into agreement was the cross-bar equipment. This equipment was completely new to this country and they started from zero and by then they had no research on the cross-bar at all. The problem cropped up only after they had worked and experienced it. He assured the Committee that for each one of the problems there was a solution. He further stated that the major part of the problems had already been analysed, detected and rectified.

The Committee pointed out that about the traffic to be carried they had experience and could have calculated and intimated the

correct position to the collaborators. The Chairman ITI stated that they did indicate the pattern of traffic to collaborators. But this information was sufficient for the strowger system only. But for the cross-bar periodicity of calling (The number of calls injected into the total calling period) was an additional important feature about which ITI did not know. Though there was a very extensive common control equipment they did not know that this feature could have important bearing on the design of the equipment, or the type of the equipment.

3.13. During evidence the Committee enquired how out of the three Companies M|s. B.T.M. alone were selected for cross-bar equipment. The Secretary, Ministry of Communciations stated in reply as follows:—

> "We had a team of technical people sometime in 1963 who went round the countries to know about this equipment. They decided to go in for cross-bar operation and these technical people went round and saw the various types of equipment working and suggested that we could call for tenders for these equipments. We had 3 tenders—one from B.T.M. the second is LM Ericsson of Sweden and the third one is Nippon Electric Company of Japan. These three firms offered different types of systems. They were all cross-bar systems but of different designs and our technical people sat over them and finally had decided to select the 'Pentaconta' system."

The Committee further enquired as to why the defects were not pointed out by the technicians before ordering for the design and accepting the same. The Secretary of the Ministry stated in reply that even if technicians had gone into the case in greater detail, they would not have been able to find out this technical defect unless those equipments worked actually under these traffic conditions.

The Committee desired to know the reason for going into the cross-bar system in which so many deficiencies were noticed. The Management stated that "the decision to go in for production of cross-bar type exchanges was a correct one although the particular design of cross-bar exchange has given rise to some problems which are being tackled."

The Secretary of the Ministry stated:

> "It is not the fault of the cross-bar system as such but the actual equipment that was installed. We decided to go in for cross-bar system for a very important reason because at that time we had envisaged that within a few years' time, we would have to go in for a national dialling network."

Commenting on the present position of the equipment and its future functioning, the Chairman, ITI stated that the major problem in the working of the equipment had been identified, also assured the Commmittee that with the introduction of the changes in their new production and according to theoretical calculations the performance would definitely improve to a high degree. He said, however, that it was slightly premature to say whether it would work to their entire satisfaction.

3.14. During evidence of the Ministry of Communications the Committee pointed out that the Government sought compensation from ITI for the production of defective cross-bar equipment whereas the defects occured due to deficiencies in design which was prepared by the collaborators *viz.*, M|s. BTM and approved by the Government of India. The Committee asked as to what was the reaction of I.T.I., on seeking compensation. The Secretary of the Ministry stated that the ITI had said, "You cannot expect us to defray the cost of repairs or rectification because you have chosen this type of equipment and asked us to manufacture it." He further stated that they had sought the opinion of the Ministry of Law wheher they could pin down their collaborators for the cost of rectification of the equipment made by ITI and supplied to them. He also informed the Committee that as far as BTM supplies were concerned, the Government had asked them for compensation. M|s. BTM had accepted the responsibility for the defective equipment and they were rectifying them.

3.15. The Committee note that the agreement with the BTM which was to have expired on the 21st May, 1971 was extended first from May, 1971 to May, 1972 and again from May, 1972 to May, 1973 in spite of the problems of production as well as in the maintenance of cross-bar exchanges supplied by the colaborators. The Committee were informed that this extension was for the benefit of ITI in order to enable follow-up action for the removal of certain deficiencies in the equipment particularly in design most

of which relate to defective spark quench, corrosion of certain parts due to climatic conditions, circuit defects and common control equipment, etc. While the Committee note that the cross-bar system of tele-communications is modern in design concept and utilisation, they are constrained to point out that the type of cross-bar technology for manufacture in India has been found in actual practice not to be fully suited to our conditions. The Committee are at a loss to understand how such a serious shortcoming crept in when a technical team of senior officials had gone round different countries to examine and recommend the most suitable type of cross-bar equipment for manufacture in the country. The Committee were informed that the Company indicated to the collaborators, the pattern of traffic and other information which was sufficient only for the strowger system and without adequate data about the periodicity of calling which was an essential feature in this system and which has an important bearing on the design of the equipment. The Committee fail to understand why such an essential pre-requisite as periodicity of calls was not identified in detail and the special feature of Indian conditions kept in view while selecting the collaboration for the cross-bar equipment. The Committee feel that at least at the time of preparing the Detailed Project Report, these features should have been gone into in detail so that the type of cross-bar exchange and the equipment which was manufactured really suited the Indian conditions. The net result of the serious omission has been that in the case of the cross-bar system installed in Bombay, as compared to 9,400 line capacity only 6019 lines could be provided resulting in a recurring loss of about Rs. 30 lakhs per annum. This matter has been highlighted by the Public Accounts Committee, (1971-72) in paragraph 1·1 of their 2nd Report (5th Lok Sabha) while examining the financial implications of the defective cross-bar system installed in Bombay. Since this equipment has also been installed elsewhere, the Committee apprehend that the financial loss might be far higher. In view of the above, the Committee desire that the reasons for not keeping in view the peculiar conditions of Indian telephone operation while deciding foreign collaboration and later not rectifying this serious omission even at the time of preparing the detailed project report should be gone into and responsibility fixed.

3.16. The Committee note that Government claim now to have found solutions to overcome these shortcomings. The Committee wish that Government had taken concerted measures much earlier and had effected the necessary rectification without any loss of time. At any rate, the Committee desire that the cross-bar equipment

already installed should be systematically rectified and the Committee informed whether it has, in fact, now been able to achieve the rated capacity in actual operations. The Committee would also like ITI to confirm that the cross-bar equipment now being manufactured at least conforms to the Indian requirements and is free from the defects which had earlier depressed its operating capacity| efficiency.

3.17. The Committee would also like Government to analyse in detail the shortcomings and handicaps which have been experienced in selecting this foreign collaboration and in its subsequent operation so as to learn the requisite lessons and advise all Public Undertakings how to avoid such pitfalls in future.

C. Project Estimates

3.18. The following table indicates the estimated cost of the Project *vis-a-vis* the actual expenditure at the end of 31st March, 1969:

(Rupees in lakhs)

Particulars	Estimated cost as per Project Report (prepared by the Company in May, 1965 and approved by Government in June, 1966)	Actual upto 31st March, 1969.
Buildings	20·00	16·74
Plant, machinery and equipment	98·75	162·82
Furniture, fixtures, office machinery and equipment	8·25	6·19
	127·00	185·75

The increase in the actuals over the original estimates is attributed by the Company to the following:—

(i)	Impact of devaluation	Rs. 24·00 lakhs
(ii)	Increase in prices and customs duty etc.	Rs. 8·00 „
(iii)	Increase due to equipment and machinery that were not originally included in the project estimates	Rs. 32·00 „
(iv)	Additional provision over and above original estimates in the Cross-bar factory, inspection, stores and factory equipment	Rs. 64·00 „ (Approx.)
	Less: Savings on buildings, fixture, furniture, etc.	Rs. 5·00 „ (do)
		Rs. 59·00 „

59·00

Though the original estimates were exceeded in 1966-67 itself, the revised estimates are yet (June, 1970) to be finalised by the Company and submitted to Government.

The original estimated cost, the revised estimated cost, and (provisional) actuals up to 31st March, 1972 together with reasons for increases in cost are furnished below:—

(Rs. in lakhs)

	Estimate as per original Project Report	Revised Estimates	Actuals up-to 31-3-72 figures
Buildings	20·00	18·26	18·53
Plant, Machinery & Equipment.	98·75	174·48	175·44
Furniture, Fixtures and office Machinery Equipments	8·25	6·42	7·39
	127·00	199·16	201·36

The increase in the capital cost of plant, machinery and equipbent is due to the following:—

(i)	Effect of devaluation	Rs. 24·00 lakhs
(ii)	Price Escalation	Rs. 18·00 „
(iii)	Customs Duty on Machinery supplied free by BTM	Rs. 11·48 „
(iv)	Additional Machinery for manufacture of special components and setting up of Jobbing Department	Rs. 22·00 „
	TOTAL	Rs. 75·48 „

3.19. The Committee enquired under what circumstances the Company did not submit the revised estimates of the Project to the Board of Directors and the Ministry of Communications till June, 1970. The Management stated in a written reply as follows:—

> "Preparation of the Revised Project Estimate involved collection of data and computation of costs after the project had been fully set up *i.e.*, after 1968. In the meantime, the budget proposals for capital investment on the project had been made and approved by the Board. The budget grants were sanctioned by the Board pending approval for the Revised Project Estimate.

After approval by the Board, the Revised Project Estimates have been submitted to Government in October/November 1971 and are under examination by the Ministry of Communications in consultation with the Ministry of Finance."

During evidence the Secretary of the Ministry stated that the revised estimates amounted to Rs. 201.36 lakhs and the Government accorded sanction on the 28th September, 1972.

3.20. The Commttee note that though the original estimate for Rs. 127 lakhs sanctioned by Government in 1966 was exceeded as early as 1966-67 the Compsny prepared a revised estimate only after the project had been fully set up in 1968 and submitted it to the Board of Directors in June, 1970. The Board submitted to Government the revised estimate in October—November, 1971 i.e., after more than one year and the revised estimates were sanctioned by Government in 1972 after another 10 months.

The Committee regret to note the laxity of financial control both on the part of Management and Government in having allowed the Company to continue to incur expenditure on the project without a Revised Estimate being prepared and approved by competent authority.. The Committee need hardly stress that the Revised Estimate should not be construed as a completion Report of the Project but it is an instrument of financial control and should have been prepared and got sanctioned when there was the slightest likelihood of the estimates being exceeded and not after the project was fully set up. The Committee feel that Ministry should also have taken steps to obtain the Revised Estimate even in 1966-67 when the expenditure exceeded the original estimate.

The Committee recommend that the procedural delays and various lapses which have caused the delay in the preparation and sanction of the revised estimates should be investigated and responsibility therefor fixed.

D. Scope of manufacture

3.21. According to the agreement, the Project envisaged the manufacture of local exchanges, trunk exchanges, rural exchanges, PABX's concentrator line unit for use with step by step equipment and pentaconta inter-working equipment.

No time schedule was, however, laid down either in the agreement which is to run till August, 1971 or in the Project Report or by the Company for taking up the production of these items individually.

The Company has so far been manufacturing local and trunk exchanges only. The manufacture of rural exchanges and line concentrators has been kept in abeyance by the Management for the following reasons:—

(i) Tools have to be fabricated.

(ii) The designs have to be decided upon by P. & T.

(iii) At the time of signing the agreement no specific design of rural exchanges suitable for Indian conditions was available.

3.22. The Committee desired to know the reasons for not laying down any time schedule for the manufacture of various items envisaged in the agreement or in the Project Report. The Chairman and Managing Director of I.T.I., stated during evidence that the original agreement covered a variety of exchanges. In all those exchanges the basic types of equipment were exactly the same and could be used to assemble the main exchange, exchange to be used in multiple exchange area or rural automatic exchange or private automatic exchange. He further stated that they had complete know-how of all these exchanges from B.T.M.

3.23. In a post evidence written reply the Management stated further as follows:—

"Production of the various types of equipment referred to in the Agreement is taken up depending upon the priority requirements of the P&T from time to time. Thus a time-schedule for production of individual types of equipment was not necessary.

Manufacture of some Rural exchanges, PABX's, Concentrator, and Pentaconta inter-working equipment has also been taken up during the currency of the agreement. Prototypes of Rural Exchanges are under trial."

3.24. The Secretary of the Ministry stated during evidence that as part of the agreement a detailed time schedule was made only for local exchanges and no Production Schedules were drawn since

they did not go in for "Pentaconta" type for smaller exchanges because their earlier designs for small exchanges were quite economic and good enough. They had all the information but had not included them in their manufacturing schedules. He added that they were more concerned with the larger exchanges than with the smaller ones. For the rural exchanges, they were making old step-by-step (strowger type) which was much cheaper and much more economic than the Pentaconta.

3.25. The Committee pointed out during evidence that Company had so far been manufacturing local and trunk exchanges only and although there was growing demand in the rural areas the manufacture of rural exchanges and line concentrators had been kept in abeyance by the Management. The Chairman of the Company stated that the new factory planned for 300,000 lines would give enough capacity not only to handle the main local exchanges but also the rural exchanges and trunk automatic exchanges. He further informed the Committee that their ultimate goal was subscriber to subscriber dialling all over the country. According to him it was the cross-bar type that was needed for national dialling from subcriber to subscriber. If the cross-bar equipment was put in the main centres divided into national, regional and group centres, then, from anywhere in the country one would be able to dial anybody in the country. All these aspects, he said, would be covered with the additional planned production capacity. he said, capacity

The Committee enquired whether the design was now available for which the manufacture of rural exchange was kept in abeyance at the time of signing the agreement. The Chairman, ITI stated that P&T gave them a design on the basis of which they supplied an exchange to try it out and if they placed order for rural exchanges they would give these in place of main exchange.

3.26. The Committee are surprised to note that though the project estimate envisaged the manufacture of Local exchanges, trunk exchange, Rural exchange, PABX's concentrator line units for use with step by step equipment and pentaconta equipment, no time schedule was laid down either in the agreement which was to run till May, 1971 or in the Project Report or by the Company for taking up the production of these items individually.

The Committee were informed that production of various types of equipment referred to in agreement was taken up depending on priority requirements of P&T from time to time and therefore, a time schedule for production of individual items was not

necessary. The Committee were also informed that a detailed time schedule was made by the Company only for manufacturing local and trunk exchanges as they were more concerned with larger exchanges than smaller one.

The Committee feel that had a time schedule of manufacture of the different exchanges been laid down in the agreements and designs for all the types and prototypes of all kinds of exchanges been done according to the schedule within the currency of the agreement any defects/deficiencies in those areas would have come to their knowledge in time before the extension of the agreement with the collaborators was decided upon. The Committee stress that even now it is not too late for the Government to take steps to complete the trial of prototype Rural exchanges to assess their performance within the extended period of the agreement.

(i) Production target and Production performance.

3.27. The Agreement envisaged setting up of a Plant capable of manufacturing 100,000 lines of Jorbagh basis of contract equipment in a single shift working (excluding the manufacture of power and ringer equipment, meters and master clocks, power distribution, manual board, installation and maintenance tools, guages, test sets, printed circuits, etc. which were to be purchased or manufactured by the Company). Full production capacity was to be achieved in a total period of 36 months (*i.e.* by July, 1967) divided into six monthly periods commencing from 1st August, 1964.

The table (Annexure IV) indicates the programmed capacity, the targeted production and the actual production during each period of six months from February, 1965 to January, 1968.

3.28. (a) It will be seen that the performance in terms of output has been much lower than that programmed in the agreement; the short-fall ranging from 67 per cent to 100 per cent.

(b) According to the agreement, local manufacture of piece parts was to begin from period 2 (August,, 1965 to January, 1966) so that complete local manufacture of all piece parts for the Crossbar equipment was completed during period 5 (February, 1967 to July, 1967). The local manufacture of piece parts was however taken up only from May, 1966 and the manufacture of all the piece parts was established from May, 1967.

(c) The Company has not yet taken up the manufacture of special relays programmed during period 5 (February, 1967 to July,

1967). The agreement provided for the procurement of tools for their manufacture, but the machines were to be provided from the MAX Division on strowger production tapering down. Since this has not been realised in practice, the Company has to order additional machines estimated to cost Rs. 4.60 lakhs.

3.29. The following reasons have been attributed by the Management (June, 1968) for the shortfall:—

(a) Phase 1 covering periods 1 to 3 (February 1965 to July, 1966) consisting of training in assembly, adjustment and testing of local exchange equipment;

(i) delay in finalisation of facility schedule/specifications for the 1st 5000 lines by the Posts and Telegraphs;

(ii) delay in receipt of engineering, manufacturing and testing know-how;

(iii) delay in the supply of semi-equipped assemblies and piece parts by BTM;

(iv) delay in the supply of test equipment by three periods;

(v) delay in ordering and receipt of machines and;

(vi) delay in erection of imported machines which were demaged in transit.

(b) Phase 2 covering Periods 4 and 5 (August, 1966 to July, 1967) consisting of local manufacture of some piece parts required for Cross bar equipment in addition to assembly, adjustment and testing of local exchange equipments;

(i) the backlog of nearly 18 months in assembly programme in Phase 1; and

(ii) delay in supply of sub-assemblies and piece parts by the collaborators.

(c) Phase 3 covering period 6 (August, 1967 to January, 1968) consisting of complete local manufacture of all piece parts of the Cross-bar exchange equipment;

(i) vital deficiencies in machine capacity in respect of certain components; and

(ii) non-availability of sufficient tools in many cases, affecting continuity of production of piece parts.

Performance subsequent to the period referred to in the agreement.

3.30. As against the programmed production of 70,000 lines in 1968-69, the actual production was 35,000 lines only. In 1969-70 also the production was estimated at 35,000 lines. The Management have assigned the following reasons for shortfall in production in 1968-69:—

(i) Inadequate supplies of raw materials, imported components and other proprietary items of BTM arising out of foreign exchange difficulties and credit formalities.

(ii) Inadequacy in machine capacity and non-availability of duplicate tools.

After taking into account the sets backs to the Project and the changed pattern of ordering by P&T, the Management have assessed the following programme of manufacture of Cross-bar equipment during 1970-71 to 1973-74:—

1970-71	60,000 lines (Balanced)
1971-72	70,000 ,, ,,
1972-73	90,000 ,, ,,
1973-74	1,00,000 ,, ,,

(The balanced supplies involve production of several items not envisaged in the agreement, such as installation and maintenance tools, test desks, manual boards for special services, distribution frames, subscribers meters, etc.)

On the basis of the above programme of manufacture, the Company anticipates a total short-fall of 2.34 lakh lines in meeting the requirements of P&T Department for Crossbar equipment during the Fourth Plan period (1969-70 to 1973-74). The short-fall of 2.34 lakh lines includes 70,000 lines of rural exchanges for which capacity has not been developed so far.

3.31. The Management stated in a written reply after evidence that the BTM was responsible for delays arising from reasons:

(i) delay in receipt of necessary know-how;

(ii) delay in supply of equipment and parts;

(iii) delay partly in tendering advice regarding erection of imported machines;

(iv) delays partly in supply of sub-assemblies and piece parts; and

(v) the backlog of nearly 16 months in assembly programme in Phase I.

The Management admitted that the finalisation of facility schedule/specification of the exchanges by P&T took some time, and consequently there was delay in finalisation of the specification etc. by BTM. It was further stated that orders were placed after finalisation of specifications and observance of essential formalities. Keeping in view the time required to call for and process the quotations and the lead time required to complete the delivery, the management felt that the original schedule of having the items in the factory by January and July 1965 was not quite practicable.

They further stated that the delays in supply of know-how were solely due to BTM's failure. Delays in supplies of sub-assemblies and piece parts were also partly due to BTM. In regard to test equipment, BTM offered to supply new testing equipments which were under development in their factories and this offer was accepted by ITI.

3.32. Due to initial deferred credit being insufficient to cover the value of the total supplies, supplementary credits had to be obtained after observance of necessary formalities. BTM could not despatch the supplies as originally visualised due to the time taken for the establishment of supplementary credits. To this extent, delays in supplies were contributed by reasons other than those for which BTM was responsible.

It was further stated that there was no provision in the Collaboration Agreement for taking action on delayed supply of specific know how or other supplies or for claiming damanges from BTM.

3.33. Asked what was the actual production in 1969-70 the Committee were informe that the production during 1969-70 was equivalent to 52,500 lines of the Jorbagh pattern.

The data relating to programmed production and actual production for the years 1970-71 and 1971-72 is given below:

1970-71		1971-72	
Programmed Production	Actual Production	Programmed Production	Actual Production
100,000 lines of Jorbagh pattern	Equivalent to approximately 60,000 lines of Jorbagh pattern(overall)	100,000 lines of jorbagh pattern	Equivalent to approximately 80 000 lines of Jorbagh pattern.

The Committee enquired that on the basis of present indications what was likely to be the total shortfall in meeting the requirement of P&T Department for crossbar equipment during the Fourth Plan Period.

3.34. The Committee enquired that apart from the shortfall whether ITI had been in a position to adhere to the delivery dates, if any, stipulated by the P&T Department. The Management stated in a written reply that there were delays in adhering to the delivery dates for supplies to P&T. These were in turn due to delayed achievement of production targets. The schedule of deliveries and actual deliveries were discussed in the high-level meetings with the P&T held quarterly, and steps were taken to improve the delivery dates wherever possible.

3.35. The Committee pointed out during evidence that the Bangalore Unit of the Indian Telephone Industries could produce only 40 percent of the targets fixed for manufacture of equipment during the year 1970-71 and wanted to know the reasons for this low production. The Chairman and, Managing Director of the Company stated that during 1970-71, they had produced about 40,000 lines. He explained that the capacity when assessed in terms of lines was likely to give rather misleading picture, because for each exchange, it was a tailor made job. The total quantum of equipment required would vary depending on the traffic to be handled in a particular exchange and so the price would also vary. He added that their factory was originally designed for a capacity of 100,000 lines of Jor Bagh type exchange. They carried out several exercises and came to the conclusion that the factory was designed for not a particular number of lines but for production of so much quantity of each one of the contracted items and therefore, the quantity of lines would vary in value. According to the nature of ordering pattern of the P&T Department 60,000 actual lines amount to 100,000 lines of Jor Bagh type. This, he said was according to the provisions of the agreement. Dut to certain deficiencies, optimum production could not be achieved in 1970-71. One of the important reasons was short supply of 12 machines by suppliers M|s. BTM who accepted the position and supplied 9 more machines where they were needed. One of the machines was still in transit The second reason for shortfall was stated to be the foreign exchange problem during 1969-70 and 1970-71 which was subsequently solved by allotment from I.D.A. credit which would enable them to import sufficient raw materials and components. The third difficulty was the quality of some items of indegenous supply of raw material. Some items were not uniform or they deviated from the specifications. The quantum of rejections became very high.

The Chairman, ITI further stated that the shortages of the machinery came to be known at the time of their installation and running when the rate of production did not come exactly with the quantum of production specified in the Project Report. The number of machines, to be supplied by the collaborators was indicated in the Project Report. The collaborators sent their team in 1968-69 and it was found out that there was some incorrect calculation on the Part of collaborators and that the number of machines specified would be inadequate to meet the required quantum of production. Explaining the gap of more than two years between the first and the second supply of machines he stated that in the beginning, the machines were run at too low capacity and their optimum production could not be known. The deficiencies were discovered later when they wanted to get optimum output. Thereafter they started dialogue. Ordering of machines and their supply resulted in loss of time.

The Committee desire to know during the evidence as to who was responsible for the shortfall. The Chairman, ITI stated that so far as the machines were concerned M|s. BTM were responsible. It was provided in the agreement that if the machines did not come upto the mark as regards both quality and quantity of production, they would make that good. He also informed the Committee that there was no clause in the agreement for claiming compensation, damages or for recovering penalties from them if they failed to supply machines etc., in a specified period.

Regarding the non-existence of Penal clause in the agreement the Secretary of Ministry of Communication stated during the evidence that from our experience I would like to say, yes, it was a lacuna. But I remember when the collaboration agreement was reached, this question of compensation was discussed at great length and it was finally decided not to include any penalty clause in the agreement." He also stated that "In the light of experience if we enter into any agreement we will have to provide for such a clause."

E. Change in Production in Pattern

3.36. The Company has stated that the comparison of actual production with the parameters prescribed in the agreement is not realistic, as the pattern of ordering by the P&T was entirely different from the Jorbagh pattern forming basis of the agreement and required much more production and scheduling efforts. The Company is, therefore, of the view that it is very difficult to evaluate the actual production in terms of the Jorbagh pattern which would have involved far less efforts.

According to the Management, 50 per cent, additional production effort is called for for the types of exchanges ordered by the P&T as compared with the Jorbagh pattern. On this basis, it has been stated that the capacity in terms of lines for the types of exchanges ordered by the P&T and that on Jorbagh basis, during the three years ending March, 1969, would be as follows:—

Capacity	1966-67	1967-68	1968-69
On actual ordering basis	25,000	25,000 to 35,000	35,000 to 60,000
On Jorbagh basis .	37,500	37,500 to 52,500	52,500 to 90,000

It will be seen that the actual production on the basis of the orders received did not reach even the above mentioned capacity except in 1967-68. Besides, it is apparent that the assessed capacity on Jorbagh basis, was less than that mentioned in the agreement.

The actual pattern of demand of the P&T being materially different from the Jorbagh pattern on the basis of which manufacturing capacity, production schedule and the requirements of the components, etc. were incorporated in the agreement, the basic parameters for judging the actual performances were substantially altered thus vitiating meaningful comparison of the actual performance. This also had the effect of altering the economics of the Project.

In this connection, the Ministry have stated (June, 1970) as follows:—

> "...it may be mentioned that when the Agreement was signed, the Government had, before them, the Jorbagh Exchange pattern as a standard. The actual orders would, however, be different as each exchange is of different capacity depending on its size and traffic handled. It is not possible to lay down any fixed parameters for computing the performance. The Indian Telephone Industries Ltd., can, however, compute production by the content of the different exchanges, which they have done."

3.37. The Committee enquired whether the change in production pattern was envisaged in the agreement and if not, how was it possible to enforce the terms of agreement and how performance

could be watched against targets. The Chairman informed the Committee that the agreement envisaged the production of certain types of equipment and certain quantum of equipment which could be used in any way I.T.I. liked and for different types of purposes. He further stated that they had to evaluate their own performance against the actual break-up of the production and against the different items which were specified. With the addition of the machines, he informed the Committee, they would have the capacity to manufacture all the items that were mentioned in the agreement.

Regarding the responsibility of BTM in the matter, the Chairman stated that the responsibility of M|s B.T.M. was only to ensure manufacture of a certain quantum of the different items mentioned in the agreement. It was not the concern of the collaborators how the equipment manufactured was used. He also stated that talking in terms of lines could be misleading in the context of total production effort or production capacity.

The Committee pointed out that the capacity laid down in the agreement was one lakh lines. The Chairman, ITI explained the position as follows:—

> "....here we have said that the original intention was that in period one, which is the period from 1-2-65 to 31-7-65, the expected capacity of the factory was this. It is one thing to have the capacity and it is another thing to ship out and sell the articles produced. The intention at that time was to produce 5,000 lines, though the machines would, at that time, have a capability of producing so much. But from the time it is produced to the time taken in going into various assemblies there, is a big time gap. Therefore, they have said that, in period one, the rate or capability of the factory will be to an extent of 20,000 lines. But the real production that was expected and specified was 5,000."

3.38. Explaining the latest position regarding production the Chairman of the Company stated as follows:—

> "Now we have reached a production capacity of hundred thousand lines. We are now in much better position to be able to do it. But we have reached upto this stage using not one shift but more than one shift because some of the machinery had been under order. When we will be able to instal that machinery, then we will be able to turn out hundred thousand lines per year in one shift."

F. Deficiency in Capacity and Measures taken to rectify it

3.39 (i) *Deficiency in Capacity*

Under Clause 4(A) of the agreement, BTM had undertaken responsibility, subject to certain conditions, for ensuring that the machinery, tools and equipment installed in the factory were such as to be capable of producing the quantities of contract equipment specified in the schedule of manufacture.

In accordance with the schedule, full production capacity of 1,00,000 lines, of Pentaconta equipment was to be attained by the end of period 5 *i.e* July, 1967. It, however, was only by the end of this period that all machines, test equipments, etc., had been commissioned when shortage in machine capacity was noticed, particularly in the selector contacting lines, 200 ton press and moulding machines. The manufacturing capacity available in these sections corresponded to about 50,000 lines only per annum on Jorbagh basis.

The matter was taken up by the Company with the Collaborators from June, 1967 onwards. The Collaborators have from time to time agreed to supply 12 additional machines free of cost (estimated at Rs. 9.25 lakhs).

No provision has been made in the Collaboration agreement for "liquidated damages" as, according to the Committee appointed by the Government in March, 1964 to negotiate the agreement with BTM, the Project involved the production of numerous components and equipment and that, while the case of a chemical plant which was set up as a complete turn-key job, liquidated damages against certain guarantees were provided, such a provision did not exist in other such collaboration agreements.

Clause 9 of the agreement also *inter alia* provides that BTM shall not be liable for any loss of production or profits of trade.

3.40. It is understood that at the instance of the Chairman and Managing Director a review of the upto date production capacity of the machines was undertaken in July, 1970, particularly in view of the fact that collaboration agreement with BTM was scheduled to expire in May, 1971. The investigation revealed that there was still further shortfall of machinery in addition to those pointed out in 1967 and made good by BTM. The shortage in machinery consisted of 13 groups of machines (21 machines in all). This was reported to BTM in August, 1970. After negotiations it was agreed by BTM that they would supply to I.T.I., free of cost, the following additional machinery

so as to bring the rated capacity to 1,00,000 lines as per agreement:—

NOS.

(a) 1—120 T Power Press.

(b) 1—Extension for Portable Hydraulic Pneumatic Press.

(c) 1—Power Shear

(d) 1—Paint Booth (4 positions)

(e) 2—Arc Welders.

(f) 7—Scheater-5 KVA spot welders.

(g) 1—Drilling Machine (6 spindle equivalent).

The above machinery is expected to be received by the first quarter of 1972-73. Owing to the shortage of machine capacity pointed out above, the build-in capacity of the machinery for the year 1971-72 was stated to be 65000 lines only.

The above mentioned investigations also revealed that information pertaining to know-how and standard time data had also not been received by I.T.I. for a large number of items, components and assembly operations. These were pointed out to BTM in August, 1970 BTM agreed to send the outstanding data as early as possible.

In a post evidence written reply to the Management stated as follows:—

"No provision was made for liquidated damages for deficiency in capacity. It appeared such a provision is not generally made in such collaboration agreements.

Agreement was finalised at the level of Government of India. It appears that the provision of machines in the Project was somewhat conservative.

The deficiency was noticed only after the project had been implemented fully.

BTM had, however, agreed to supply a total number of 12 additional machines free of cost towards inadequate provision in the Agreement. All the machines have been received excepting one SM 4-Contract Welding line equipment—which has also been shipped by BTM.

There was significant improvement in the production of Crossbar equipment during the years 1970-71 and 1971-72. We

have since reached 100,000 lines' capacity rate of Jorbagh type in the last quarter of 1971-72.

The provision of machinery, tools and equipment installed in the Factory has been reviewed with reference to the changed pattern of demand and necessary action has been taken to augment the same. The Revised Project Report takes into account the changed demands pattern. With the additional machines installed and necessary man-power provided, it is anticipated that production of cross-bar lines equivalent to that provided for in the agreement would be feasible.

The agreement seems to have been finalised by Ministry of Communications after having been shown to the Law Ministry.

3.41. The Secretary of Ministry of Communications confirmed the position during evidence that with the existing machines and particularly after the installation of one extra machine, the Company would have adequate capacity to reach the designed figure of 100,000 lines per year.

3.42. A team from the World Bank consultants visited ITI to study the working of the project with a view to assist the project with credit facilities for achieving the programmed supplies to P&T Department. The World Bank study team made a number of suggestions for improving the production efficiency in the factory, procurement systems and stock control of materials, close coordination between P&T and ITI, creation of buffer stocks for stategic raw materials and components, speedy clearance of import licences etc. A summary of the suggestions made by the World Bank team is given in Appendix *V*.

3.43. The Committee note that according to the BTM agreement for setting up of the plant capable of manufacturing one lakh lines in Jorbagh basis of contract equipment on a single shift working, the full capacity was to have been achieved in a period of 36 months commencing from August, 1964 and ending July, 1967. The Committee regret to note that the actual performance in terms of output has been much lower than that programmed in the agreement. The shortfall ranges from 67 per cent to 100 per cent at the end of January, 1968. The management has attributed various types of delays as reason for shortfall in phases I and II (February, 1965—July, 1967). The management have also admitted

that there were delays in finalisation of facility schedules|specifications, etc. by the P. &. T. Though for some of the delays pertaining to supply of know-how, semi-equipped assemblies etc., the BTM was also responsible, the Committee regret to note the absence of any provision in the agreement with the BTM for taking action against them for such delays or for claiming the damages from them. The Committee view with concern that these delays have ultimately affected the training and the production programmes. The Committee would like that the reasons for delays should be investigated.

3.44. The Committee also take a serious view of the lack of advance planning and the preparation of specifications by P&T|ITI before entering into agreement so that the specifications could be made available to the BTM for completing the contractual obligations in time. The Committee see no reason why in a project of this magnitude which involves erection and commissioning of a sophisticated equipment, the progress of which depends on scheduling at different stages the Company should not have taken advantage of modern management techniques like "PERT" to review the programme, identify the delays and take timely remedial measures at different stages to achieve the targeted programme.

3.45. Apart from the financial losses, the Committee would like to point out that at a time when the country is seriously short of telephone enquipment and the waiting list runs into several years in metropolitan towns, it is unfortunate that we should not have been able to manufacture equipment of the requisite quality at ITI upto the installed capacity. The Committee are greatly dissatisfied with the lack of urgency with which the various manufacturing problems encountered have been tackled in ITI and desire that the matter should be looked into at the highest level in order to take concerted measures to overcome these deficiences and reach production as per the installed capacity.

3.46. The Committee are greatly perturbed to note that as compared to the Fourth Plan target, the ITI would fall short by as much as 2.34 lakh lines including 70,000 lines of rural exchanges.

3.47. The Committee note that though 60,000 lines of P. & T., were evaluated by the Management to one lakh lines of Jorbagh pat-

tern originally envisaged in the agreement with the collaborators the optimum production could not be achieved by the Company even in 1970-71 due to certain deficiencies like short supply of machines, shortfall in foreign exchange and poor quality of indigenous supply of raw materials. The Committee regret to note that the short supply of machinery came to the notice of the Management only after two years of installation and running and when the factory could not achieve the quantum of production specified in the project report. The Committee find that:—

> ". . . . . soon after the (present Chairman & Managing Director took over charge in June, 1970, he had detailed discussion with the officers on the Audit Report and while going through the causes and the difficulties for attaining the rated capacity, it came to light that the machine capacity was still not sufficient. They pointed out that they could not make the correct and full assessment of the machine capacity earlier as the various machine operation timings had not been received in full from B.T.M.".

The Committee regret to note that even now information pertaining to know-how and standard time data has not been received by ITI from BTM for a large number of items, components and assembly operations.

3.48. The Committee are surprised that though under the agreement with the collaborators, the BTM were responsible for such defects and deficiencies, the agreement did not even include a penalty clause providing for claim for liquidated damages for any failure to supply the machines in a specific time. The Secretary of the Ministry, during evidence, admitting this lacuna stated, "when the collaboration agreement was reached, this question of compensation was discussed and it was finally decided not to include any penalty clause in the agreement." The Committee are not happy at the way in which things connected with BTM agreement had been handled. The Committee would therefore like that the whole matter regarding the agreement with the BTM should be thoroughly investigated and the responsibility for not only entering into such a defective agreement but also the failure to take follow up action at different stages during the implementation of the agreement be fixed.

3.49. The Committee also strongly recommend that Government should learn the lesson from this experience and ensure that agreements with collaborators include suitable clauses providing for levy

of penalties and recovery of liquidated damages in cases of delays or failure to fulfil the contractual obligations either in full or in part. The Committee would also like Government|BPE to issue suitable guidelines in this regard to all Public Undertakings.

3.50. The Committee were informed that with the addition of the machines which are now being received from BTM, the Company would have the capacity to manufacture all the items that were mentioned in the agreement. The Committee, however, regret to observe that no revised parameters according to the P. & T., pattern were fixed corresponding to those included in the agreement for judging the actual performance with the result that no useful comparison could be possible with the agreement and the terms thereof enforced. The Committee view with concern the failure of the Management in not having intimated the revised production patterns|programmes to BTM in time and included them in a supplementary agreement to the main contract so that the terms of the contract could have been enforced and responsibility for shortages at several stages pinpointed.

3.51. The Committee also note that a team of the World Bank Consultants had made a number of suggestions for improving the production efficiency in the factory, procurement system, stock control of materials, closer coordination between P. & T. and ITI, creation of buffer stocks for strategic materials etc. The Committee hope that these suggestions will be implemented and the production of the Company improved and efficiency enhanced.

(ii) *Tool Room Facility*

3.52. In the Project Report, no separate tool room facility was contemplated. As the then existing capacity was insufficient to cater to the requirements of cross-bar manufacture in addition to meeting the existing demands of other divisions, one set of tools was obtained from the Collaborators for the manufacture of 1,00,000 lines of Crossbar equipment. Out of 500 tools required in Crossbar, about 200 are highly sophisticated and complex. Repair, maintenance and duplication of these tools was found by the Company to be very difficult and a tool engineer was set in 1969 for training with BTM in the manufacture of these complicated tools. There were tool break-downs which because of lack of duplicate tools affected the continuity of production besides hampering the efforts of the Company to step up the schedule of local manufacture by two shifts working in certain sections of the machine shops wherever there were shortages of machine capacity.

In order to obviate the difficulties in too maintenance and tool duplication, the Company also bifurcated the existing Tool Room in August, 1968.

The establishment of a full-fledged tool room is, however, still (June, 1970) not complete pending procurement of additional machines. The Company has taken the following measures in this regard:—

(a) *Fabrication of tools*

(Out of 180 tools programmed to be manufactured in the Company's tool room, 82 tools only have been manufactured upto June 1970 and the manufacture of remaining 98 is in progress).

(b) *Farming out of certain tools*

Out of 56 tools farmed out to outside firms, 16 tools have been received so far (June, 1970).

(c) *Import from M|s. BTM*

(4 tools at a C.I.F. cost of Rs. 1,25,297 have been received and another 71 tools are proposed to be imported).

3.53. During evidence, the Chairman of ITI stated that at the time of entering into agreement with the BTM they had a very good tool room for the strowger factory. It was expected that with the progressive manufacture of crossbar, demand for strowger would come down releasing the strowger tool room for adaptation and use for crossbar. But the country's demand for strowger went so high that the tool room remained fully occupied. He added that they had a single set of tools and when it got damaged they suffered in production. In a post-evidence written reply the Management intimated that the collaborators were advised about the tool room facilities available for strowger production. The anticipation of tapering off of production not having materialised and in view of the complicated nature of the tools required, duplicate tools had since been ordered and a full-fledged tool room had been established for crossbar. The Management further stated that provision had been made in the agreement for supply of tools by BTM along with other supplies and only one set of tools was accordingly purchased from them apparently with a view to keep down the costs. It was not, however, possible to quantify the loss of production arising from the non-availability of tools.

It has been clearly mentioned in para 15 of the Project Report for Crossbar that it would not be possible to divert tooling capacity of MAX Division to Crossbar without affecting supplies to the other divisions. It has further been mentioned in para 15 of the Project Report that even any marginal transfer of tooling facilities will be inadequate and would only impede the progress of the Crossbar Project.

Initially, therefore, tools, fixtures, guages were to be procured and ordered on BTM as per Annexure 0.8 to the Project Report which was expected to suffice for manufacture of 1,00,000 lines of Crossbar equipment.

3.54 The Secretary of the Ministry stated during evidence that they had not placed orders for the second set of tools though BTM had offered to supply. In this connection the Management stated that 71 Nos. of tools were ordered on BTM and 13 Nos. were imported from others including BTM since June, 1970.

3.55. The Committee regret to note that the decision to make use of the tool room facilities available for strowger type of equipment for crossbar production on the expectation that there would be tapering off of strowger production was not correct especially when the crossbar equipment was quite new to the country and there was no experience in the use of this type of equipment. It has been clearly mentioned in para 15 of the Project Report for Crossbar that it would not be possible to divert tooling capacity of MAX Division to Crossbar without affecting supplies to the other divisions It has further been mentioned in para 15 of the Project Report that even any marginal transfer of tooling facilities will be inadequate and would only impede the progress of the Crossbar Project.

Initially, therefore, tools, fixtures, guages were to be procured and ordered on BTM as per Annexure 0.8 to the Project Report which was expected to suffice for manufacture of 1,00,000 lines of Crossbar equipment. The Committee note that only when the Company was faced with critical situation of large number of breakages in tools during production that the Company thought of ordering a duplicate set of tools and establishing full toolroom facilities. The Committee also note that in the meantime the Company had to place orders for import of 4 tools from the very same collaborators i.e BTM for a C.I.F. value of Rs. 1.25 lakhs and another set

of 13 tools from BTM and other companies. Had the duplicate set of tools been procured in time, the Company would not have suffered the loss in production. The Committee view with concern the lack of proper planning in the provision of tools, and toolroom facilities which has caused loss of production. The Committee also take a serious view of the failure on the part of the Management in not having assessed the demands of strowger type of equipment in time before a decision about toolroom facilities for crossbar production was taken. The Committee hope that with the establishment of a full-fledged tool room, ITI would be able to overcome the difficulty of lack of tools required for the manufacture of crossbar type of equipment in future.

G. Delays and their effect

3.56. It is seen that there was delay on various accounts in the execution of the Project. Although Pert technique was proposed to be applied to the Project, it does not appear to have been observed in actual implementation, as will be evident from the instances given below. Besides, Pert technique itself was efficient, inasmuch as know-how delivery was excluded from its scope:—

(i) The Company was not in a position to indicate the actual dates of the receipt of production and engineering information *vis-a-vis* the scheduled dates. There were, however, initial delays of six months in the supply of bulk of the production and engineering information by the Collaborators. According to the Management it was not possible to draw a definite line as to the dates of completion of manufacturing know-how but that, by and large, it had been received in time.

(ii) In order to start the training of the operating personnel and the programmed output of 5,000 lines of local exchanges in period 1 (February, 1965 to July, 1965) the Collaborators were to supply the necessary equipment as semi-equipped assemblies. These were supplied only by July, 1967. As a result, the training schedule for period 1 could not be adhered to. The Collaborators have attributed the delay in the supply of these equipments to the late finalisation (March, 1965) of facility schedule/specifications of the exchanges by the P&T to the extent of nearly 8 months.

Similarly, for the manufacture of 15,000 lines during period 2 (August, 1965 to January, 1966) and 22,000 lines during period 3 (February, 1966 to July, 1966), BTM were to supply sub-assemblies and piece parts to give training in the assembly and testing of the equipments. There was delay of 2 months in placing the orders for period 2 (August, 1965 to January, 1966). Besides, supplies were not regular and balanced in respect of both the periods and were received in batches spread over from September, 1965 to July, 1967, thus affecting the training and production programme of the Company. The above delays resulted not only in production hold-ups but also in increased payment of escalation charges on the following BTM supplies as indicated below:—

Year	Value of imported Components (in Rs.)	Percentage of escalation charges(*)
1965-66	32,02,702	117·73 in April, 1965 to 127·96 in March, 1966.
1966-67	2,46,82,327	128·16 in April, 1966 to 143·07 in March, 196-.
1967-68	22,89,228	141·77 in April, 196- to 159·45 in March, 1968.

(iii) In the following cases, delays on the part of the Company were noticed in provisioning of machines required from sources other than BTM:—

Particulars of machines	Date by which required in the factory	Date of ordering	Date of receipt
1. Automatic Platir g Plant	January, 1965	February, 1965	July, 1966
2. Power Shear	Do.	December, 1964/ March, 1965	June, 1966
3. Viker's Pressbrake	Do.	November, 1964	September, 1966
4. 200 Ton Press .	July, 1965	December, 1964	December, 1965

The Company has stated that, although action was initiated to June, 1964, but as many quotations for various types of equipment had to be obtained and the extensive technical data and suitability

*Based on BTM prices prevailing in December, 1963 (100).

of the machines for use had to be considered, orders could not be processed earlier.

3.57 The Committee drew the attention of the Management of ITI to the fact that there were delays on various accounts in the execution of the project and that the Company was not in a position to indicate the actual dates of receipt of production and engineering information *vis-a-vis* the schedule dates and enquired why penalty clause was not included in the agreement. The Committee also enquired the reasons for the delay of 8 months in finalisation of specifications and designs of exchanges by P&T Department which consequently caused delay in the supply of equipment according to the Collaborators. The Management of ITI stated in a written reply as follows:—

> "It is true that the finalisation of facility schedule|specifications of the exchanges by P&T took some time, and consequently there was delay in finalisation of the specification etc., by BTM. There was no provision in the collaboration agreement for delayed supply of specifications, know-how etc."

Asked why PERT Technique was not observed in the implementation of the Project, the management stated that PERT Technique did not specifically cover know-how delivery schedule since this aspect had been fully covered in the GANT Chart enclosed to the agreement. Regarding increased payment of escalation charges the Company stated that the question did not arise from December, 1966 since supplies were made with fixed escalation charges determined with reference to the date of placement of the order.

3.58 Commenting on delay in receipt of know-how, the Secretary of the Ministry of Communications stated during evidence:

> ".....I do not think there was any serious delay in receiving this know-how for the major part of the equipment particularly for the large exchanges. In the case of smaller exchanges, the know-how came very late but that really did not affect our production."

3.59. The Committee fail to understand how the I.T.I. management and the Government could ensure implementation of the agreement and that of the project as per schedule in the absence of any record being maintained to indicate even the actual dates of the receipt of know-how etc. The Committee are also surprised as

to how the Management could state that the manufacturing know-how had been received in time, by and large in the absence of the record. The Committee emphasise the need for keeping a complete record of receipt of all types of know-how including production and engineering information vis-a-vis the scheduled dates to enable the Management and the Government to keep a close watch so that it can be ensured that the provisions of the agreement and the project are implemented as per schedule.

The Committee have already commented on the defective agreement with BTM in not having included a penalty clause in the agreement.

H. Manpower Analysis

3.60 The BTM-ITI agreement estimated a manpower requirements of 1,339 for 1,00,000 lines production [A—(iv) of Agreement]. As against this, the Project Report envisaged the staff requirement of 15 officers and 1,235 operative and indirect staff on achieving 100 per cent efficiency, exclusive of staff posted in the small Crossbar cells in such departments as Engineering, Methods and Tool Design, Industrial engineering Training establishment, etc. The higher staff requirement as per BTM-ITI agreement is explained by the fact that at the time of preparing the Project Report it was visualised that the factory would achieve 10 to 20 per cent greater efficiency over the standard time under incentive conditions.

The staff strength at the end of six years from 1967 to 1972 and the actual production achieved is indicated in the table below:—

As on	Strength Employed			Actual Production
	Officers	Others	Total	
31-3-1967	13	621	634	22,000 lines (33,000 lines) @
31-3-1968 . .	18	978	996	35,000 ,, (52,500 ,,)@
31-3-1969	21	1064	1085*	35,000 ,, (52,500 ,,)@
31-3-1970	22	1145	1167**	52,500 ,,
31-3-1971	28	1274	1302**	60,000 ,,
31-3-1972 . . .	31	1401	1432**	80,000 ,,

@Represents production on revised pattern.

*Excluding 5 Officers and 65 other staff employed in the Methods, Tool Design and Tool Room.

**Excluding Officers and staff of Methods, Tool Design, Tool Room and Industrial Engineering Department.

The direct operative staff employed in manufacture, assembly and inspection as on 31st March, 1969 and the efficiency achieved are indicated below:—

	No. of operative staff	Efficiency achieved
Manufacture .	340	50%
Assembly	406	75%
Inspection	160	75%

The Management have stated (January, 1970) that the industrial Engineering Department has already taken up assessment of manpower as would be required on 100 per cent efficiency.

On the basis of 100 per cent efficiency and allowing for the extra efforts needed on P&T ordering pattern, the requirement of staff at the level of production efficiency worked out to 771. As, however, the efficiency of operative staff was less as indicated above, about 311 additional people were required to be employed.

The direct operative staff employed in manufacture, assembly and inspection as on 31st March, 1970, 1971 and 1972 is indicated below:—

	31-3-70	31-3-71	31-3-72	
Manufacture	380(54)	419(78)	419(78)	The figures in brackets show indirect staff out of total.
Assembly	499(35)	515(35)	537(37)	
Inspection . . .	164	199	250	

The staff strength referred to above is not more than the number assessed by Industrial Engineering Department for the year 1972-73.

3.61 Asked whether the expected level of efficiency of the operative staff had been attained after employing 811 additional hands. The Management of the Company stated in a written reply that the expected level of efficiency in the crossbar unit had not yet been attained. This was due to changes/modifications in designs, to some extent. There had also been occasional fall in efficiency due to delay in implementation of job Evaluation Committee's recommendations for upgradation of posts and for issue of inter-divisional promotions.

In regard to the efficiency achieved in manufacture and assembly of the Crossbar Division in 1969-70, 1970-71 and 1971-72 by the Company is stated to be as follows:—

	Crossbar assembly	Piece parts manufacture excluding iron work
	%	%
September, 1969—March, 1970	74·52	40·10
April, 1970—March, 1971	58·55	38·49
April, 1971—February, 1972 . . .	60·87	50·72

3.62. The Secretary of the Ministry of Communications stated during evidence that the operative staff in Crossbar had reached 68 per cent level of efficiency whereas in the rest of the factory the efficiency was of the order of 92 to 93 per cent.

3.63. The Committee find that against the staff requirement of 15 officers and 1235 operative and indirect staff on achieving 100 per cent efficiency envisaged in the Project Report for production of 100,000 lines, the Company has on 31-3-1972 a strength of 31 officers and 1401 operative and indirect staff whereas the production was only of the order of 80,000 lines. Although the Committee were informed that the present strength is not more than the strength assessed by the Industrial Engineering Department the Committee are inclined to feel that the staff strength is much in excess of the requirements especially when the production has not reached 100 per cent level. The Committee are concerned that the Company could not attain the expected level of efficiency in the Assembly and Manufacturing Divisions of the Crossbar Unit whereas the percentage of efficiency is only of the order of 60.87 and 50.72 in 1971-72. The Committee strongly, recommend that Management/Government should go into the reasons responsible for low achievement of the required level of efficiency and should take suitable remedial measures to improve the efficiency and attain maximum production. The Committee also recommend that employment of staff should be strictly regulated to the needs of production and production pattern to avoid over-staffing at any stage.

3.64. The Committee have been repeatedly coming across instances where staff officers and others grossly in excess of requirement as envisaged in the detailed project report etc., are employed.

What distresses the Committee most is that even when the requisite level of production or even a substantial portion thereof has not been reached, the officers and staff employed usually is far in excess of what would be even required for achieving 100 per cent level of production.

This is indicative of the laxity with which the appointments of staff are made in the beginning which militates against disciplined hard work and thereby vitiate the atmosphere in Public Undertakings for achieving optimum production results. The Committee would like Government at the highest level to analyse in detail the reasons for recurrence of such lapses and lay down guidelines to obviate their recurrence. The Committee would like Government to hold that Chief Executives squarely responsible for any such lapse in future so that production discipline is maintained all along the line.

I. Profitability

3.65. The Project Report envisaged a sales realisation per line of Rs. 645 during 1965-66 to 1967-68 and Rs. 545 during 1968-69. Similarly, a profit of Rs. 60 per line was envisaged during 1965-66 to 1967-68 and that of Rs. 50 in 1968-69. According to the Company, a valid comparison of the actual performance with the data given in the Project Report was not possible mainly because of the following factors:—

(a) The Project Report cost did not take into account the manufacture and supply of several items of non contract equipment and also the supply of larger quantity of costly common control equipment as a result of change in the product pattern.

(b) There was considerable additional engineering scheduling and production effort consequent on the change of the production pattern which was not reflected in the Project Report cost.

(c) The Project Report data was based on:—

(i) Stability of production;

(ii) 100 per cent efficiency of labour and overheads; and

(iii) 50 per cent. indigenous substitution of material.

(d) The effect of devaluation was not reflected in the Project Report cost.

After taking into account the factors at (c) and (d) above, the Company has evaluated the cost of manufacture, selling price and profit per line as given in the Project Report as follows:—

	1965-66 to 1967-68	1968-69
	Rs.	Rs.
Manufacturing cost per line on Jorbagh pattern	1,007	724
Selling price per line on Jorbagh pattern .	1,217	875
Profit per line	110	79

Similarly, to make the data comparable, the Company has adjusted the actual sales realisation by eliminating the value of complete requirement of period 1 exchanges which were imported, value of replacement supplies, other items of exchange equipment not covered by the 'Contract equipment' etc. and has worked out selling price and profit per line as follows:—

	1965-66 to 1967-68	1968-69
	Rs.	Rs.
Sales relations per line .	1243·00	864·20
Profit per line	113·00	78·20

According to the Company the sales realisation and profit per line compare favourably with the norm prescribed in the Project Report.

It may be mentioned, in this connection that as against the efficiency of 100 per cent envisaged in the Project Report, the efficiency adopted by the Company for the purpose of evaluating labour cost was 35 per cent. during the period 1965-66 to 1967-68 and 50 per cent. during 1968-69. Had the efficiency of labour been 100 per cent as envisaged in the Project Report, the sales realisation and profit per line would have been as follows:—

	1965-66 to 1967-68	1968-69
	Rs.	Rs.
Sales realisation per line . .	883·30	651·00
Profit per line	80·30	59·20

The effect of lower efficiency has therefore, been that the Company recovered Rs. 1,243 per line during 1965-66 to 1967-68 and Rs. 864.20 per line in 1968-69 as against Rs. 883.30 per line recoverable during 1965-66 to 1967-68 and Rs. 651 per line in 1968-69 on 100 per cent efficiency. On this basis, the Company recovered a additional cost of Rs. 312.03 lakhs on the supply of 74,500 lines on actual ordering basis (equivalent to 1,12,000 lines of Jorbagh pattern basis during 1965-66 to 1968-69 over and above the level contemplated in the Project Report as evaluated. Similarly, because of this higher cost, the Company realised a profit of Rs. 28.13 lakhs on the above supply over and above the profit contemplated in the Project Report as evaluated.

The Ministry have stated (June, 1970) that the lower efficiency was due to delay in commencement and interruption of training programmes on account of the following factors:—

(i) Delay in receipt of engineering manufacturing and testing know-how.

(ii) Delay in the supply of semi-equipped assemblies and piece parts by BTM. Supplies were irregular and unbalanced.

(iii) Delay in the supply of testing equipment by the three periods (18 months).

(iv) Delay in ordering and receipt of machines (including replacement of supplies impounded by Pakistan).

(v) Delay in the erection of imported machines which were damaged in transit.

(vi) Vital deficiencies in machine capacity in respect of certain components.

(vii) Non-availability of sufficient tools in many cases effecting continuity of production of piece parts.

3.66. The Committee enquired about the sales realisation and

profit per line during the years 1969-70 to 1971-72 and how these compared with the norm prescribed in the Project Report as evaluated on the basis of actual efficiency and 100 per cent efficiency as envisaged in the Project Report. The Management of the Company stated that:—

"During the years 1969-70, 1970-71 and 1971-72 production of Crossbar exchanges was executed in the form of specific equipment for the different exchanges ordered by P&T. As and when the equipments were ready, they were despatched and billed for. The total sale value of supplies made during the 3 years amounted to Rs. 16.7 crores The sale value included 10 per cent profit margin. The cost per line was established only for budgetary purposes. Neither the despatches nor the billing was done on the basis of cost per line. The comparison of the cost per line with the cost per line as envisaged in the original Project Report is given below:—

Original Project Report		Actual	
1965-66 to 1967-68	1968-69	1965-66 to 1967-68	1968-69
Rs.	Rs.	Rs.	Rs.
484	450	923	709

The original Project Report did not take into account the increase in cost due to devaluation, escalation in prices as per the agreement, increases in statutory (import) duties, and other increases in costs. Apart from this fact, the cost per line itself does not give a reliable index of the cost of production|sale since the cost of production|sale of individual exchanges vary from one another depending upon the size of the exchange, location of the exchange, the facilities provided and other factors. It has been found that the computation of costs on the basis of the lines will not therefore, yield any reliable data.

In respect of exchanges supplied during the years 1969-70 and 1970-71 according to management the cost worked out as follows:—

	1969-70	
	No. of lines	Cost per line without Power Plant
		Rs.
Trivandrum Exchange (other than districts) .	3000	1,190
Jodhpur Exchange (Single Exchange) .	4000	830
Janpath Exchange I (Exchange in district)	2000	2,242
Janpath Exchange II (Exchange in district)	3000	2,153
Average cost per line . .		1,603
	1970-71	
Chankayapuri Auto Exchange .	4000	2,603
'54'Bigh Bazar II Calcutta . .	3000	1,765
Fountain Bombay . .	3000	3,605
Belgaum Auto Exchange .	3000	1,335
Average cost per line		2,327

3.67. The Management stated that a comparison made of the selling prices (even on the basis of the cost per line) to P&T with the recent prices quoted by BHM directly to P&T revealed that the Company's costs were lower by about 50 per cent. Selling prices were thus found to be lower than the quotations from other foreign suppliers.

When asked about the additional cost and profit recovered by the Company as a result of lower efficiency it was stated that in view of the efficiency having gone up from year to year, and as standard costs were built up on the basis of the efficiency achieved during the previous year for subsequent year's production, there had been no case of recovery of additional cost or profit. The effect of efficiency variance had been duly reflected in the annual bulk adjustments which were credited back to the P&T from year to year.

3.68. In regard to the labour efficiency the Management stated

that it was assumed at 40 per cent for 1965-66, 1966-67 and part of 1967-68 and thereafter the efficiency was assumed at 50 per cent. Trends of efficiency were studied by technical departments and on the basis of such study, the revised efficiency figures were adopted. The 50 per cent efficiency adopted was also fixed on this basis. The Management further stated that though the efficiency in the Crossbar Division had been progressively going up, it had not been possible to achieve 100 per cent efficiency so far.

3.69. The Committee note that because of the pricing formula adopted by the Company for calculating the selling price on the basis of a lower labour efficiency of 35 per cent during 1965-66 to 1967-68 and 50 per cent in 1968-69, the Company has fixed the selling price at Rs. 1243 per line during 1965-66 to 1967-68 and at Rs. 864.20 per line during 1968-69 as against the estimated evaluated rates of Rs. 883.30 and Rs. 651.00 during the corresponding periods. Consequently, the Company has recovered from the P.&T., Rs. 312.03 lakhs more than what it should for the supplies made to it during the period from 1965-66 to 1968-69. The Committee were informed that from 1969-70, production of crossbar exchanges was executed in the form of equipments and charged as such. Even so, the average cost per line has been worked out as Rs. 1603 during 1969-70 and Rs. 2327 during 1970-71 which are again very much higher than the estimated cost as evaluated. The Committee are inclined to feel that if in spite of low efficiency and low utilisation of capacity, the company is making profits, it is mainly because of the fixation of selling prices at much higher rates than what they should be, under the procedure now followed by the Company and recovery of additional costs from its main consumer P. & T., the figures of profit shown by the Company are not true index of its efficiency. The Committee regret to observe that while this pricing procedure has enabled the Company to present a better financial picture, it has really proved to be an extra burden on the exchequer.

The Committee would, therefore, stress that merely judging from these higher profits the Company should not develop a sense of complacency and take undue advantage of their monopolistic position. The Committee recommend that aim of the company should be to manufacture their products at most economic costs by increasing their labour efficiency and maximising production and thereby supply the vital equipments at reasonable rates.

IV

LABOUR UTILISATION

4.1. The table below indicates the total labour hours booked and the loss of hours by way of idle time due to various causes during the last five years ending 31st March, 1972:—

(Figures in hours)

	1967-68	1968-69	1969-70	1970-71	1971-72
Total booked hours	1,14,49,401	1,12,45,900	1,30,94,764	1,22,16,359	1,42,92,400
Idle time for					
(a) Lack of materials	91,991	1,96,366	1,97,806	1,56,548	65,147
(b) Power failure	18,420	19,118	8,452	4,518	14,903
(c) Machine under repair	3,152	2,976	3,769	3,451	3,229
(d) Miscellaneous	63,980	74,900	71,468	79,376	78,271
Total hours lost	1,77,543	2,93,360	2,81,495	2,43,893	1,59,550
Percentage of total hours lost to total booked hours.	1·55	2.60	2·15	1·99	1·12

(Miscellaneous idle time includes granted time and additional time. Total time paid for is not being worked out by the Company. At the instance of Audit, the Management have undertaken to reintroduce the system of reconciliation of the time paid with the time booked.)

The Project-wise value of the idle time during the years from 1967-68 to 1971-72 is given below:—

(Rs. in lakhs)

	1967-68	1968-69	1969-70	1970-71	1971-72
Max	0·88	1·29	0·58	0·55	0·92
Transmission	0·36	0·39	0·54	0·43	0·20
Crossbar	1·11	2·06	2·02	2·21	0·92
	2·35	3·74	3·14	3·19	2·04

It is seen that during the year 1969-70 out of total 130,94,764 booked hours 1,97,806 were lost due to lack of material and components alone. This according to Chairman, ITI, was a major difficulty which resulted in idle hours. He stated that the loss could not however, be regarded as unduly high. He contended that the idle time should be considered as negligible as it was of the order of just 2 per cent. in 1970-71 and 1.12 per cent in 1971-72.

4.2. In reply to a specific question whether the loss occurred due to shortage or lack of raw materials, the Chairman of the Company explaining the difficulty regarding shortage of material stated as follows:—

> "ITI is still not listed on a priority industry in spite of the fact that we are engaged on production of one of the most important infrastructure items of equipment in this country and for simple items like steel sections we have to be continuously struggling and we get it in smaller quantity which will not be enough even for a part of our optimum production. But as far as ITI, is concerned, particularly if steel sections and sheets are given in sufficient quantity it will go a long way in solving the problems of material shortage."

The Committee were also informed that shortage of raw materials and purchased components occurred on account of the difficulties experienced in their procurement with delay in obtaining import licences and also due to supplies from indigenous sources of components being unsatisfactory.

4.3. During evidence the Committee pointed out that the International Bank for Reconstruction and Development, Washington had suggested the following procedures to be adopted for urgent purchase of components, tools etc. in their letter dated the 24th December, 1970 addressed to the department of P & T:—

(a) "The creation of buffer stocks representing three to six months' supply of strategic materials and components for crossbar production. This should obviate production holdups due to unforeseen rejection or non-delivery of key material items".

(b) "A streamling of Government procedures to facilitate urgent purchases of relatively small quantities of materials, components or production tools. In discussion with

the Director General, Technical Development and a Finance Ministry representative it was agreed that an advance import licence covering a general list of materials could be authorised against which limited emergency purchases could be made."

The Committee enquired as to what action was taken in this respect. The Chairman of the Company stated in reply that they had asked the Administrative Staff College, Hyderabad to conduct a detailed study. They had brought out a report on this subject and that it was being examined for implementation.

4.4. The Committee find that the percentage of total hours lost to total booked hours was 2.6 per cent in 1968-69, 2.15 per cent in 1969-70 which decreased to 1.99 per cent in 1970-71 and to 1.12 per cent in 1971-72. Although the Management considered this percentage as not unduly high, the Committee note that the loss has been mostly on account of lack of raw materials. As mentioned in the Chapter regarding "Materi Management", the Secretary of the Ministry of Communications conceded during evidence that inventory in ITI was very high. The Committee are surprised that while on the one hand ITI are carrying exessive inventories, on the other labour remains idle for want of materials.

The Committee were, however, informed that in spite of the fact that ITI were engaged in production of one of the most important infrastructure items of equipment in this country, they are not listed by Government as a priority industry with the result that the production of the Company suffers. The Committee feel that ITI being the major industry meeting the increasing demands of telephones and transmission equipments in the country should not be made to suffer on account of shortage of basic items of raw materials like steel sections and steel sheets. The Committee, therefore, recommend that the Government should make a correct assessment of the requirements of ITI for steel sections and steel sheets and treat them on high priority basis so that the Company has not to suffer on account of shortage or lack of essential raw materials and consequently the labour remaining idle.

4.5. The Committee would like Management to review the matter in the light of the study made by the Administrative Staff College, Hyderabad and the suggestions made by the study team of International and evolve a suitable system of store purchase and control so that production in ITI does not suffer at any time for lack of materials.

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*Bank for Reconstruction and Development, Washington.

V

MACHINE UTILISATION

5.1. There are in operation with the Company about 3046 machines spread over 35 shops. The machine utilisation cards are, however, maintained only in respect of the Auto Shop (about 125 machines) in the MAX Division. The utilisation of the machinery in this shop and the causes and extent of non-utilisation during the last five years are analysed below:—

	1964-65	1965-66	1966-67	1967-68	1968-69
1	2	3	4	5	6
Total hours available	3,04,219	3,59,076	3,34,054	4,08,035	4,50,938
Actual hours utilised	2,45,729	2,87,407	2,57,473	3,09,511	3,11,555
Percentage of hours utilised to available hours.	80·77	80·04	77·08	75·85	69·09
Percentage of non-utilisation due to various factors—					
(i) Machine repair	10·40	10·00	10·10	10·40	9·85
(ii) Waiting for tools and methods.	1·90	2·00	2·40	3·22	6·65
(iii) No operator (Absenteeism)	4·80	6·30	7·30	8·35	9·92
(iv) Miscellaneous (including power failure and lack of materials)	2·13	1·66	3·12	2·18	5·49*

*It indicates percentage against miscellaneous (including power failure) Against no material the percentage for the year 1969-70 was 8.31.

5.2. Machine utilisation particulars are also compiled for groups of general purpose machine in respect of five other shops in the MAX Division which work on individual incentive schemes but the reasons for non-utilisation are, however, not analysed in the absence of machine utilisation cards. The extent of utilisation in respect

of these shops during the years from 1967-68 to 1971-72 can be seen from the table below:—

Shop	1967-68 Hours available	1967-68 Hours Booked	1967-68 Percentage of utilisation.	1968-69 Hours available	1968-69 Hours Booked	1968-69 Percentage of utilisation
1. Moulding Shop . . .	3,00,760	2,09,466	69·65	2,99,540	2,17,900	72·74
2. Misc. Machine Shop. .	2,45,140	1,27,760	52·12	2,29,160	1,33,103	58·28
3. Selector Machine Shop	3,40,480	2,85,702	83·81	3,52,316	2,71,659	77·11
4. Telephone do. .	4,63,150	3,08,314	66·53	4,28,400	0,81,457	65·70
5. Relay do. .	3,08,020	2,17,620	70·65	2,92,400	1,97,869	67·67.
	16,57,550	11,48,862	69·30	16,01,816	11,01,988	68·80

	1969-70 Hours available	1969-70 Hours booked	1969-70 Percentage of utilisation
Moulding shop	334,873	214,313	64
Misc. Machine shop	217,920	140,843	64·63
Selector Machine shop	379,971	250·044	65·81
Telephone Machine shop	434,777	301,717	69·4c
Relay Machine shop	283,781	192,434	67·81
	16,51,322	10,99,351	66·33

	July, 1970 to March, 1971			1971—72		
	Hours available	Hours Booked	Percentage of utilisation	Hours available	Hours Booked	Percentage of utilisation
	1	2	3	1	2	3
1. Moulding shop	1,80,421	1,36,984	75·92	2,38,761	1,88,829	79·09
2. Misc. Machine shop	83,840	52,806	62·98	1,19,727	73,072	61·03
3. Selector Machine shop	97,052	60,077	61·90	1,24,034	78,798	63·53
4. Telephone do	1,33,088	84,372	63·40	1,85,058	1,15,798	62·57
5. Relay do	98,773	67,476	68·36	1,29,505	92,823	71·67
	5,93,174	4,01,715	67·72	7,97,085	5,49,320	68.92

NOTE : Except in the case of Moulding shop which works on three shifts, machine utilisation indicated above is on two shift basis.

Machine utilisation particulars are not compiled in respect of the remaining shops of the MAX Division and the whole of the Transmission Division as they are stated to be on group incentive scheme.

5.3. The Management have stated (January 1969) that "it is difficult to achieve full machine utilisation in view of large amount of product-mix, the continuous changes in the pattern of production and other difficulties with regard to procurement of materials, etc. from time to time. This industry is labour intensive and full utilisation of labour is of greater importance than machine utilisation". They have, however, agreed (December, 1969) to maintain machine utilisation cards in the various shops on the model of the Auto Shop. It has been further stated (February, 1970) as follows:—

(a) Out of 1889 machines in use for production purposes, only 503 machines cost over Rs. 20,000 and machine utilisation cards for these machines are now being maintained. The remaining 1,157 machines consist of 751 machines in maintenance service departments and 406 small items.

(b) Shortage of raw materials, use of sub-standard material, non-availability of standard tools and absenteeism in the

second shift have contributed to bring down the utilisation of machines.

(c) Majority of the machines are more than 10 years old, with the result that their performance cannot be considered to the optimum level.

The particulars of utilisation of the machinery in the Auto Shops of the MAX Division during period 1969-70 to 1971-72 are as follows:—

	1969-70 A	July 1970 to March 1971 B		1971-72 B
Machine Hours available	4,45,921	14,85,841 Hours		20,31,817 Hours
Machine Hours utilised	3,01,591	10,40,067 Hours		14,08,066 Hours
Machine utilisation percentage	66·30%	70%		69·30%
Idle Time Analysis		*Percentage of availoble hours*		
	Hours	1969-70	July, 70 to March, 71.	1971-72
	85,846	8·31		
No. material	93,169	8·01	5·78	5·32
Machine breakdown	42,435	7·43	6·27	5·35
Waiting for tools and methods.	166,137	7·82	2·85	3·43
No operator	58,530	2·13	11·18	12·30
Miscellaneous			3·92	4·30

A. Pertains to Auto shop of MAX Division

B. Pertain to machine costing Rs. 20,000 and above in all the shops.

Machine utilisation cards were introduced in July, 1970 for all machines costing over Rs. 20,000.

5.4. During the evidence, the Chairman of the Company stated that the company was maintaining machine utilisation cards since July, 1970 for all the important machines numbering 471 costing over Rs. 20,000.

The Chairman of the Company also conceded that before July, 1970 there was really no systematic method by which they could watch the extent of utilisation of the machines.

He added that "... there are a large number of machines which have to be worked only for a short period. For example, there is a specific tool making machine. We may utilise it for just a few hours. They are not regular production machines. Where we have got a large number of machines, there we have to keep some machines as stand by for the utilisation of about 70 per cent. capacity considering this factor, of course, that there will be occasions when there will be shortage of material as well as break-down which are inescapable. So this is a very good utilisation"

In a written reply after evidence, the company stated that the machine utilisation for 1971-72 was 69.3 per cent.

> "It is our experience that absenteeism is high during the second shift working. The per centage of absenteeism in the first and second shifts for the period 1964-65 to 1971-72 to indicate the utilisation of available hours in the first and second shifts is not maintained."

As regards steps taken to overcome shortage of materials, use of sub-standard materials and non-availability of tools which had brought down the utilisation of machine, it was stated that special steps were being taken to improve supply of raw materials, components, tools etc. taking into account also the need for indigenisation.

5.5. The Committee are unable to appreciate why prior to July 1970, out of 3046 machines spread over 35 shops, machine utilisation cards were maintained only in respect of 126 machines in the Auto Shop of MAX Division. The Committee note that since July, 1970, records of machine utilisation are being kept in respect of machines which cost Rs. 20,000 in value and more. The Committee would like that the record of machine utilisation should be scrutinised in detail in order to identify the reasons for less than full utilisation and take effective measures like arranging timely supply of spares and materials, servicing of machines and maintenance and standardisation of product mix to get the best results.

5.6. As regards the machines for which machine utilisation cards are not being kept at present the Committee would suggest that an overall review should be made from time to time—once a year—to make sure that these machines are really needed and to derive necessary guidelines to see that investment is not made in machines which would not be put to use.

5.7. One of the reasons given for decrease in percentage of utilisation of machinery in 1971-72 as compared to 1967-68 is that the percentage of absenteeism has risen to 12.3 per cent in 1971-72 from 8.35 per cent in 1967-68. The Committee are not able to appreciate the reply of the undertaking that they have not worked out the percentage of absenteeism in the first and second shifts though they have a feeling that the percentage of absenteeism in the second shifs is on the high side. The Committee would like the undertaking to analyse the matter in detail and take effective action to see that the percentage of absenteeism is reduced. The Committee need hardly stress that effective action should be taken to see that production and utilisation of machines do not suffer on this account.

VI

SALES PERFORMANCE INCLUDING EXPORTS

A. Shortfall in sales

6.1. The table below indicates the value of sales as budgeted and the sales effected by the Company for the last six years:—

(Rs. in lakhs)

Customer	Budgeted sales	Revised budgeted sales	Actual sales	Shortfall as compared with	
				Budgeted sales	Revised Budgeted sales
1	2	3	4	5	6
1966-67					
(i) P & T .	1346·90	1426·90	1274·47	(—)72·43	(—)151·53
(ii) Non P & T	235·10	174·00	214·38	(—)20·72	(+)40·38
(iii) Export .	80·00	60·00	81·17	(+)1·17	(+)21·17
TOTAL .	1662·00	1660·00	1570·02	(—)91·98	(—)89·98
1967-68					
(i) P & T .	2204·11	1856·23	1714·22	(—)489·89	(—)142·01
(ii) Non P & T	241·19	249·34	231·40	(—)9·79	(—)17·94
(iii) Export	77·21	63·65	51·36	(—)25·85	(—)12·29
TOTAL	2522·51	2169·22	1996·98	(—)525·53	(—)172·24
1968-69					
(i) P & T .	2148·87	1666·99	1673·15	(—)475·72	(+)6·16
(ii) Non P & T	348·77	357·11	325·59	(—)23·18	(—)31·52
(iii) Export .	63·73	80·30	72·31	(+)8·58	(—)7·99
TOTAL .	2561·37	2104·40	2071·05	(—)490·32	(—)33·35

1	2	3	4	5	6
1969-70					
(i) P & T .	2369·00	1705·50	1626·10	(—)682·90	(—)79·40
(ii) Non P & T	341·30	269·50	378·98	(+)37·68	(+)109·48
(iii) Export .	100·00	90·00	89·71	(—)10·00	(—)0·29
TOTAL .	2750·30	2065·00	2094·79	(—)655·51	(+)29·79
1970-71					
(i) P & T .	1962·00	1962·70	1940·80	(—)21·20	(—)21·90
(ii) Non P & T	313·00	362·55	542·60	(+)229·60	(+)180·05
(iii) Export .	100·00	50·00	50·25	(—)49·75	(+)0·25
TOTAL .	2375·00	2375·25	2533·65	(+)158·65	(+)158·40
1971-72					
(i) P & T .	2210·00	2222·00	2499·65	(+)289·65	(+)277·65
(ii) Non P & T	340·00	545·91	579·91	(+)239·91	(+)34·91
(iii) Export .	100·00	50·00	32·08	(—)67·92	(—)17·92
TOTAL	2650·00	2817·00	3111·65	(+)461·64	(+)294·64

6.2. It will be seen from above that the Company was not able to achieve the overall targets (original as well as revised) of sales during the 3 years from 1966-67 to 1968-69. The shortfall in actual sales ranged from 5.5 per cent to 8 per cent with reference to budgeted sales and from 1.6 per cent to 20.8 per cent with reference to revised budgeted sales and has been stated to be mainly due to non-achievement of quantitative targets. During 1969-70 overall targets in actual sales fell short with reference to budgeted sales by above 24 per cent.

6.3. The Committee enquired during evidence the reasons for shortfall in actual sales as compared with both budgeted and revised budgeted sales during the years from 1966-67 to 1969-70. The Chairman of the Company stated in reply that they were in a very fortunate position as a manufacturer because their customers were prepared to take everything which they could possibly manufacture. He informed the Committee that shortfall in production was really shortfall in sales also. As already indicated earlier the production

targets were based on 100 per cent efficiency and utilisation of labour and machinery. Explaining the position regarding non-achievement of targets, the Chairman stated as follows:—

> "As far as target is concerned the Management deliberately pegs the production targets very high. But, everybody is trying to do as much as possible and year after year there have been shortfalls. Of course, now, we have been having so much of criticism on this subject that now we are trying to become a little more practical in our attitude and in the latter years we have been able to produce nearly as much as targetted. But the main reason is that they had set the targets a little too high.".

6.4. In reply to another query, the Chairman of ITI stated that the demand of the P & T was far too big and that they always tried to do as much as possible from the factory. He further informed the Committee in this respect that they had a Coordination Committee which met and discussed the subject very often. The P&T he said, always wanted them to do more.

The Secretary of the Ministry of Communications while giving the reasons for ITI fixing the targets higher than what they could reasonably achieve, stated during evidence thus:

> "....The idea was that once you fix a lower target the shop floor people never try to exceed the target, therefore, always try to pitch high and try to reach that as far as possible. It is because of this that the production was always lower. Last year we told them to fix the target which they can reasonably reach. For the last two years, we have, therefore, exceeded the target."

6.5. The Committee note that the overall actual sales fell short of both the budgeted and revised budgeted sales during 1966-67 to 1968-69 but the situation, however, improved from 1969-70 to 1971-72. The Committee, however, note that the Company has not been fulfilling its targets for sales to P. & T., during the years 1966-67 to 1970-71 except for a small excess over the target revised in 1968-69.

As the country depend largely on ITI for telephone and transmission equipment, the Undertaking should leave no stone unturned to meet the requirements of the P.&T. The Committee find from the approach paper to the Fifth Plan of ITI that the

estimated demand for telephone instruments during the 5th Plan period is 24 lakh instruments and the backlog during the 4th Plan is estimated at 5 lakh instruments. Similarly, the P. & T., have planned for installation of microwave equipment over 15,000 route Kms., coaxial system on 10,000 route Kms. and long distance transmission equipment over a number of open wirelines.

The Committee recommend that the Company should in consultation with the P. & T., fix realistic targets of sales taking into account the demands of P. & T., and ensure that such targets are actually achieved and the demands of public met to the maximum extent by improving efficiency and stepping up production.

B. Export Promotion

6.6. There was shortfall under "Exports" in 1967-68 and 1969-70 with reference to "Revised budgeted sales". The Division-wise export (which comprise of components, piece parts and telephone exchanges) performance of the Company during the last 6 years is indicated below:—

(Rs. in lakhs)

Year	TARGETS				ACHIEVEMENTS			
	MAX	Transmission	Others	Total	MAX	Transmission	Others	Total
1	2	3	4	5	6	7	8	9
1966-67	Not available	..		60·00	78·75	2·42		81·17
1967-68	62·65	1·00		63·65	50·56	0·80	..	51·36
1968-69	80·30		..	80·30	71·89	0·42	..	72·31
1969-70	82·50	5·00	2·50	90·00	88·53	0·08	1·10	89·71
1970-71	23·00	25·00	2·00	50·00	28·93	19·45	1·87	50·25
1971-72	45·00	3·00	2·00	50·00	28·82	1·22	2·04	32·08

Country-wise value of exports is given in Appendix VI.

6.7. The Committee enquired as to what was the policy followed by the Company regarding exports and whether the export was made after meeting the home requirement specially that of the P&T Department. In a post evidence written reply, the Management stated that they fixed the export targets with due regard also to the need for meeting the home demands particularly of P&T. It was further stated that adequate steps were being taken to improve the export potential consistent with the need to meet home demands fully and that the exports were made to the limited extent feasible.

Asked about the main reasons responsible for decrease in exports, the Company explained in a written reply that:—

> "Out of the equipment being manufactured by ITI only stabilised and standardised manufactured items from Strowger switching division and open wire carrier equipment from the transmission Division could be spared for exports. Thus the main reasons responsible for the decrease in exports of ITI is the declining demand for Strowger type of equipment and Open Wire Carrier Equipment. Added to this, there are difficulties faced by ITI in procuring special raw materials required for export orders. For example, Telephone Exchange racks ordered by Overseas countries specified Nickel-Silver which has to be imported whereas our standard is Brass which is available in India.
>
> There has been a further decline of exports during 1971-72 and orders worth Rs. 32.00 lakhs only could be executed and invoiced. A few orders on hand could not be executed due to difficulty in procurement of special raw materials, dislocations caused in movement of these materials during the trouble time in the sub-continent during November, 1971 January, 1972 period. However, the order book position at the beginning of 1972-73 is quite bright and it is hoped that the position will be retrieved in 1972-73".

6.8. The Committee note that there has been shortfall in the exports by the Company as compared to the targets fixed during the years 1967-68 to 1969-70. The Committee were informed that export targets are fixed with due regard to the need for meeting the home demands particularly of P. & T. The Committee also

note that the value of the products exported by the Company has come down from Rs. 89.71 lakhs in 1969-70 to Rs. 32.08 lakhs in 1971-72. The Committee were informed that main reasons responsible for decrease in export is the declining demand for strowger type equipment and open wire carrier equipment and unless ITI's cross-bar equipment and Microwave are available for exports, ITI will not be able to reverse the trend. The Committee were also informed about the difficulties in procurement of special raw materials required for export orders. The Committee, therefore, feel that the targets for exports have been fixed on a realistic basis taking into account all the relevant factors like declining demand of its products outside, production possibilities etc.

The Committee, therefore, recommend that before fixing the targets for exports, a proper demand survey of the export market should be undertaken and targets fixed consistent with the home demands for such products.

6.9. The Committee also recommend that Government should provide ITI special facilities for procurement of the requisite type of raw materials required for export orders to enable the Company to fulfil its commitments of exports.

C. Outstanding Orders

6.10. In respect of the P&T orders, the value of outstanding orders pertaining to MAX, Transmission and Development Divisions as at the end of March, 1969 was Rs. 11.94 crores, Rs. 5.60 crores and Rs. 1.07 crores, respectively. Year-wise break-down of these orders was not maintained till October, 1969. In this connection, the Management have stated (November, 1969) that "We have now arranged with computers to obtain details of outstandings. This work has commenced from 1st October, 1969 and during next year, we will have full details of total number of orders outstanding execution as also orders executed partly and total value for all customers."

The Management of ITI intimated in a post evidence written reply that the estimated value of the orders pending for execution in respect of the P&T was Rs. 485.87 lakhs, Rs. 1792.68 lakhs and Rs. 3558.58 lakhs as on 31.3.70, 31.3.71 and 31.3.72, respectively.

6.11. In regard to orders from non-P&T customers, the position of the orders received and still outstanding as well as value thereof (approximate) was as follows:— December 1969

Year	DEFENCE			RAILWAYS			OTHERS			Total value of outstanding orders
	No. of orders received	No. of orders outstanding	Value of outstanding orders (Rs. in lakhs)	No. of orders received*	No. of orders outstanding*	Value of outstanding* orders (Rs. in lakhs)	No. of orders received*	No. of orders outstanding*	Value of outstanding orders (Rs. in lakhs)	
1	2	3	4	5	6	7	8	9	10	11
1962-63	41	4	6·20	400	7	..	36	..	..	6·20
1963-64	90	3	0·29	734	22	..	160	1	0·03	0·32
1964-65	71	9	13·92	513	26	0·10	124	3	1·04	15·06
1965-66	144	14	62·26	321	29	0·81	125	17	5·38	68·45
1966-67	154	19	6·75	331	49	1·58	116	14	11·17	19·50
1967-68	232	33	188·36	341	61	123·85	161	33	52·20@	364·41
1968-69	156	57	124·27	278	74	153·43	150	51	52·93	330·63
	788	139	402·05	2918	268	279·77	872	119	122·75	804·57

NOTE: *Excludes orders for maintenance spares for which yearwise break-up is not available.

@Includes value of orders for telephones and maintenance spares for the earlier years also.

The position of orders received outstanding as well as value thereof for the three years 1969-70, 1970-71 and 1971-72 in respect of orders booked from 1st October, 1969 are tabulated below :—

(Rs. in lakhs) (Figures approx)

Year	P&T			RAILWAYS			DEFENCE			OTHERS			Total value of orders outstanding
	No. of orders received	Orders outstanding		No. of orders received	Orders outstanding		No. of orders received	Orders outstanding		No. of orders received	orders outstanding		
		No.	value		No.	Value		No.	Value		No.	Value	
1969-70	670	614	325·95	280	228	56·25	55	49	1·22	172	136	7·22	390·64
1970-71	2246	2035	1367·86	949	896	84·09	132	131	364·68	489	460	32·63	1849·26
1971-72	2355	2174	1864·77	758	688	324·66	183	180	550·08	527	467	111·51	2851·02
			3558·58			465·00			915·98			151·36	5090·92

NOTE : For the year 1969-70, the figures are from 1-10-1969 to 31-3-1970, since only after the date order statistics were tabulated by Computers.

6.12. The Committee enquired as to why the Company did not keep any record of the orders received from the various customers and other details relating thereto till October, 1969 and how control on the execution of orders was exercised by them. Giving the detailed reasons therefor, the Company stated in a written reply as follows:—

"Almost right from the inception, the agreement between ITI and the major customer—Posts & Telegraphs Department was that equipment would be supplied on cost plus basis. Till very recently *i.e.* until 1972-73 cost plus basis continued. Coupled with this cost plus agreement was the fact that P&T Department through its various units spread over in the country placed their orders based on installation programme drawn up, without detailed specifications on an open basis without asking for quotations from ITI. After receipt of orders detailed system|station engineering are carried out in ITI and manufacturing specifications released progressively for executing the orders. The record of all such orders was not, therefore, feasible. The Company has been able to do this work only with a small group for handling and processing the enormous number of orders received from P&T department the number of items as well as the value being very high (currently to the tune of Rs. 20 crores per annum). Control was exercised over the execution of orders by constant review of supply programmes for each year mutually agreed between ITI and P&T through periodic meetings.

In respect of non-P&T customers though a record of orders with values, was maintained it was not complete with all particulars.

After the Company installed a Computer in the year 1966 several operations which could not be attempted before on manual basis were taken up by the Computer one by one depending on priorities. Computer took up analysis of inventories, sales bills, accounts statements, production schedules. By the middle of 1969 the details of orders received and executed thereby giving the orders outstanding was computerised. Though some of the earlier limitations still applied it was possible for the existing man-power to utilise the Computer and produce statements of orders received, their approximate values and to tabulate and

present total statements. It was possible for the computer to show the execution of these orders year to year and to show the outstandings thereon. The estimate of the value of our orders received necessarily is very approximate since open orders without exact details of the equipments and without corresponding quotations still continue to be a feature."

6.13. In regard to the reasons for such a large number of orders outstanding, the Management stated in a written reply that the reason for pendency was "the normal cycle time for an order to wait its turn, the time taken to be engineered in detail and to be taken up for procurement and manufacture ranged between 18—24 months in case of major orders requiring engineering to be done. In case of minor orders for standard equipment, because of the fact that orders have to wait for turn for execution the total time of waiting ranged from 6.18 months. We have also been requesting the major purchasers to place orders well in advance with the full understanding that the order would be taken up on forward basis. The orders pending are not high considering the yearly supplies that are made from ITI".

6.14. Asked about the action proposed to be taken by ITI to meet the outstanding orders, the Management stated that there was a need for setting up additional factories as ITI's (Bangalore) capacity was not sufficient to meet all orders with the desired delivery schedules. Proposals had, therefore, been made from time to time and that the second factory for Transmission equipment had started production and the factory for telephone instruments was under construction.

6.15. The Committee desired to know the procedure evolved by ITI to take follow up action on the execution of orders according to delivery schedules and whether the Company had suffered any loss as a result of the delay in execution of orders. The Management stated in reply as follows:—

"The delivery schedules are promised by the production Control Department judging the orders on their hand and the manufacturing schedules. However, from time to time, due to manufacturing difficulties, or priorities some shifting takes place. In addition, due to foreign exchange problems, raw material procurement and production difficulties and revision of manufacturing budgets, delivery schedules may not be met. Sales Department brings to

the notice of Production and Works Department the likely delays to enable corrective action to be taken where possible. Where the delays are unavoidable Sales Department advises the customers regarding postponement of deliveries with reasons thereof. Every week, General Manager convenes a meeting to review progress on manufacturing schedules and to sort out the difficulties arising from time to time. Important cases where deliveries are being affected are brought up at this meeting to consider the various aspects and take corrective action. The major customers being—Indian Posts and Telegraphs Department and the Defence Department to make a comprehensive review of deliveries promised and deliveries realised periodical high level meetings are held where the position is reviewed and necessary steps taken. Since supplies to P&T are billed on rates ruling at the time of delivery, there would be no loss. For non-P&T supplies, suitable provisions are made in the price build up to take care of increases in cost upto time of deliery. Consequently, losses due to delayed deliveries do not generally arise."

In regard to the steps taken to accelerate the pace of execution of orders with reference to actual performance, it was stated by the Company that:—

"The reason for long deliveries being the lack of capacity, project reports had been made for expansion of capacity and to establishing new factories. Decentralisation by way of divisional organisation in the company had been introduced with effect from 1-6-1972. It is hoped that divisionalisation would speed up procurement and manufacturing activities and thereby improve deliveries to some extent."

6.16. The Committee regret to note that the total value of P&T orders outstanding as on 31-3-1969 was 18.61 crores and year-wise break-up of these orders was not maintained till October, 1969 for one reason or other and control over execution of the orders was being exercised only through periodical meetings between P&T and ITI. The Committee also note that the total value of orders outstanding as at the end of 31st March, 1972 was over Rs. 59 crores out of which the orders of P&T alone amounted to Rs. 35.58 crores and the value of outstanding orders has been increasing from 1969-70.

The Committee were informed that in respect of non-P&T orders, though a record of orders with values was maintained, it was not complete with full particulars. The Committee are unhappy to find that though a computer was installed by the Company in the year 1966, they did not assign the priority to get the data regarding the orders received and those outstanding computerised. The Committee are unable to understand how in the absence of vital information the management is able to exercise any effective control over the execution of orders. The Committee recommend that the position should be carefully investigated and responsibility for failure to maintain proper record of the orders received and executed before October, 1969 should be fixed. The Committee also recommend that the ITI should exercise necessary control to see that the orders are accompanied by all the required specifications and other details in order to avoid delay later in execution. The Committee were informed that long deliveries were due to lack of capacity and steps for decentralisation have also been taken from June, 1972. The Committee were also informed that the normal cycle-time for a major order to wait ranges from 18 to 24 months and in the case of minor orders for standard equipment, the waiting period ranges from 6 to 18 months.

The Committee need hardly stress that ITI should endeavour to accelerate the pace of production by improving its efficiency and proper advance planning for procurement of materials and thus reduce the waiting time for the orders to the minimum.

The Committee hope that with the coming up of the new units of the ITI and with improved efficiency and forward planning for materials, it should not be difficult for the ITI to clear up the backlog of the orders and ensure timely execution of the new orders.

VII

COSTING SYSTEM AND ANALYSIS OF COSTS

A. Costing System

7.1. The Company has a standard costing system for the MAX, the Transmission and the Crossbar Divisions. The standard costs were determined once in two years up to 1966-67 and on a yearly basis thereafter in respect of the MAX and the Transmission Divisions. As regards the Crossbar Division, the Company had been adopting BTM rates as standard costs from the inception of the Project and from 1st October, 1969, the Company has established its own standard costs in this Division.

7.2. The standard costs of various products are computed at various stages of manufacture, *viz.*, components, sub-assembly and assembly culminating in the standard costing of the final products. The standard cost-sheets for components give details of (i) direct material cost and (ii) direct labour cost and overheads; at subsequent stages of manufacture, *i.e.* manufacture of sub-assemblies and manufacturer of complete equipments, the costs reflect the cost of components, sub-assemblies and other direct materials drawn for final assembly as well as assembly labour and overheads, in accordance with the method generally followed in the assembly order cost system multiple cost system. The following features of the system deserve mention:—

"(i) Standard costs are fixed with reference to the layouts/drawings for materials and engineering estimates for labour. There, is however, no time-controlled plan for the systematic review of existing layouts and operational timings required as per engineering estimates. Besides, the standard costs, over the years, have not reflected the actual trends in labour efficiency. The labour efficiency, in arriving at the standard costs, has been computed at 100 per cent. In the case of MAX Division and between 50 and 80 per cent in respect of Transmission Division. The actual, efficiency factor has, in actual practice, however,

varied substantially (as will be evidenced from the illustrative cases mentioned in Appendix VII).

(ii) Even though product-wise standard costs are computed, productwise actual costs are not compiled with the result that no comparison with the standard costs is possible."

The Management stated in a written reply that in cross-bar technical estimates are obtained for evaluation of work in progress in respect of intermediate production in certain specific departments since production in crossbar division is not yet stabilised.

7.3. Asked about the total number of layouts during the last three years and whether according to the Management a time controlled plan for systematic review of existing layouts and operation timings required as per engineering estimates was not necessary, the Management stated that the review of layouts was undertaken only where there was a change in process or a change in design or tool or work simplification or substitution of materials. Such changes were, however, infrequent and no time-controlled plan could apply. The total number of layouts during the last three years 1969-70 and 1970-71 and 1971-72 was 59,000, 69,000 and 77,000 respectively.

In regard to the standard costs being worked on a realistic having regard to the actual costs particularly when the ITI could not attain the required labour efficiency, the Management explained that the standard costs had been worked out with reference to the efficiency attained during the previous years duly assessed by works and concurred with by the P&T Cost Check Unit. The computation of standard cost was done with the prior concurrence of the P&T. Moreover, the actual percentage of efficiency for MAX and Transmission were made available to P&T before seeking their concurrence.

7.4. The Committee asked whether there were any difficulties in computing product-wise actual costs. It was stated that

"In the existing pattern of production, components against individual shop orders are fabricated and sent to stores for subsequent withdrawal. Similarly, sub-assemblies are fabricated against separate shop orders and sent to stores for subsequent withdrawal for final assembly. Separate shop orders are then issued for final assemblies and such components, sub-assemblies, etc. required for final assemblies are drawn thereafter from stores and booked to

such assembly shop orders at standard costs. While the actual quantity of material and labour priced at standard costs are booked as debits to the shop orders, credits on account of actual releases in the shop orders are based on standard costs already fixed. In this manner, a comparison between actuals and standards established on the individual shop order itself, thereby enabling cost control at every stage of production.

Thus, the costing system has been designed to confirm to the multi-stage production pattern in vogue. As soon as a shop order is closed, significant variances between the debits and credits are analysed and taken up with the Works for investigation and remedial action. While providing for cost control/comparison at every stage, this system does not, however, provide for product-wise actual costs."

7.5. The Committee note that because the production in the crossbar Division is not yet stabilised, technical estimates are obtained for evaluation of the work in progress in respect of intermediate production in certain specified departments. The Committee feel that working out standard costs based on technical estimates only for intermediate production in certain specified departments will not ensure a scientific and realistic costing for evaluation of work in progress.

The Committee therefore, recommend that the correct standard costing practice should be adopted and the standard costs for the production of crossbar division fixed on a scientific basis. The Committee also recommend that these standard costs should be reviewed periodically and variations between standard costs and actuals analysed to take remedial measures to reduce the cost of production and effect adjustments as necessary.

7.6. The Committee note that the standard costs are fixed with reference to layouts/drawings for materials and engineering estimates for labour. The Committee also note that the number of layouts has increased from 59,000 in 1969-70 to 77,000 in 1971-72. The Committee were informed that unless there is a change in process or design tool or work simplification or material substitution no revision of layouts is undertaken. The Committee feel that in view of the large number of layouts and the frequent changes in product mix/designs especially in Transmission Division, there should be a systematic time-controlled plan of review of layouts with a

view to fixing the standard costs as accurately as possible and improve upon the performance.

7.7. The Committee note that the Company has been following a standard costing system based on labour officiency of 100 per cent. in MAX and 50 to 80 per cent. in Transmission. The Committee were informed that the standard costs were varied from year to year consistent with the changes in labour-efficiency, although such variations were done with the concurrence of P&T.

The Committee also note that actual percentage of labour efficiency in shops was in excess of the percentage adopted for standard costs in 6 shops of MAX and 2 of Transmission and less than the adopted percentage in 3 shops of MAX.

The Committee would like the undertaking to analyse in detail the factors inhibiting labour efficiency and take remedial meaures to achieve 100 per cent efficiency.

7.8. The Committee were also informed that the costing system has been designed to conform to the multi-stage production pattern in vogue with an inbuilt cost control system. The Committee, however, note that the system does not provide for determination of productwise actual costs. While the Company has provision for cost-control/comparison at every stage of production of components against individual shop orders, the Committee do not see any reason why the data available cannot be utilised by the Company in working out the product-wise actual cost so as to provide a suitable basis for comparison with the standard cost. Such product-wise analysis of actual cost will be helpful in the fixation of prices for various products on a scientific basis. The Committee, therefore, urge that the compilation of product-wise actual cost be undertaken early.

7.9. The Committee also recommend that the standard costs should be reviewed and re-fixed taking into account the present trends in labour efficiency and material costs so that variaions in costs may be kept to the minimum.

B. Cost Control

(i) Cost compilation

7.10. While actual costs are not compiled productwise the Company compiles costs for each shop order in respect of components, sub-assembly and assembly separately. Materials issued are priced at standard rates based on the latest rates of the previous year plus

a margin of 10 per cent to cover stores overheads in respect of raw materials. These rates are changed only when there is an increase in the prices of purchased items beyond 1 per cent.

The labour and overhead charges are booked for the time actually taken at pre-determined shop average rates for labour, and the relevant percentages (on direct wages) for overheads.

On closure of the shop orders, differences between the costs compiled in the manner indicated above and the value of deliveries to stores at the standard rates is taken to the cost variation adjustment account, which mainly represents the excess or short utilisation of labour and material with reference to standards. In addition, the cost variation adjustment account also comprises of material valuation differences *i.e.* price differences in respect of purchased items being the difference between standard rates and procurement rates, and other valuation differences arising mainly due to (i) revaluation of stocks on account of reviews of prices for purchased items during the year and (ii) revaluation of closing stocks of both manufactured and purchased items based on current standards and under|over absorption of overheads.

The costs, compiled in the manner indicated above, are, however, subject to the following limitations:

(a) These cannot be considered as actual costs, as the material and labour are charged at pre-determined *i.e.* standard rates.

(b) These do not provide a basis for effective comparison with the standard costs, as in certain cases (i) actual doings are based on semi-manufactured items, whereas the standards are based on operations on raw materials (ii) Standards are fixed on operations for assembling panels all whereas the actual bookings are made for manufacture of penals and subsequently assembly, and (iii) the increase beyond 10 per cent in the rates of purchased items during the year is given effect to in the costs compiled, but standard costs are not revised.

7.11. In view of the fact that the costs compiled by the Company cannot be considered as actual costs because the material and labour are charged at predetermined that is standard rates and that these costs also do not provide a basis for effective comparison with the standard costs the Committee enquired as to how these defects in cost compilation affected the selling prices and profitability, and what

steps had been taken by the Management to remove the various deficiencies in the fixation of standard costs. The Management stated in a written reply as follows:—

> "Actual costs are compared with the standard costs at every stage on the basis of booking against each shop order. again, the actual costs and standard costs are compared with reference to the total production on a quarterly basis. With this method of comparison between standard costs and actual costs, there are no defects as such in the cost compilation. Cost variations arising under the standard costing system affect the profitability of the Company, but this cannot be avoided."

The Management further stated that

> "The cost control exercised under the present system is considered satisfactory. However, improvements are possible by expediting the closure of shop orders and introduction of departmental budgeting. These are under consideration."

7.12. The Committee further enquired if it was not desirable to have the break-up of standard costs into raw material, labour and overhead costs and to know the impact of each of the factors which contributed to increase or decrease in the standard costs. The Committee also enquired as to what system of cost compilation was followed by ATE of U.K. The Management stated as under:—

> "In view of the multi-stage production pattern and multiple costing system designed to conform to the production pattern, break-up of standard cost into raw material, Labour and overhead cost are available only at the first stage of production (*viz.* at the stage of production of components). Thereafter, components become the raw material for the production of sub-assemblies, and sub-assemblies become the raw material for the final assembly. Hence, actual break up of the standard cost for the final product into raw material, labour and overhead cost is not available. Information on the system of cost compilation followed by ATE, UK is not readily available."

7.13. The Committee note that in the process of compilation of cost, actual costs are not compiled product-wise but are compiled in respect of shop orders only. The Committee further find that the

so called actual costs of shop orders cannot be considered as "actual" since these are based on standard rates for labour, materials, and overheads and variation beyond 10 per cent in cost of materials are only taken into account. When shop orders on completion are transferred stores, these are again at standard rates and variations between the costs and the value "actually" determined at the shop level are taken to cost variation adjustment account.

The Committee were informed that the "actual" costs so compiled and standard costs are compared with reference to the total production on a quarterly basis.

The Committee feel that the present system does not provide an effective method of comparison of actuals with standard costs, since break-up of cost of final product into labour, material and overheads is not available for cost control and the standard rates of materials are not revised with reference to variation in cost of materials. Besides, the actual costs compiled are themselves defective and do not represent the actual costs in the true sense of term. Since the practice adopted does not provide for an effective control on the cost of the products and affects the profitability of the undertaking, the Committee strongly recommend that the undertaking should put the costing system on sound footing and consider the introduction of a system of departmental budgeting and expeditious closing of shop orders.

The Committee also recommend that the company should take steps to review the standard rates by a careful analysis of the figures in the cost variation adjustment accounts, and revise the standard rates suitably. The Committee also recommend that the undertaking should study the costing system adopted by ATE of UK|BTM who are the collaborators for the manufacture of the tele-communication equipments, with a view to evolve a better and more effective system of costing and management control.

Analysis of cost variations

7.14. The details of cost variances between the costs compiled by the Company and the standard costs are categorised under the following three heads:—

(a) Cost variation on completed orders;

(b) Material valuation differences; and

(c) Over/under absorption of overheads.

The details of cost variation for the year 1966-67 to 1971-72 are shown in Appendices VIII, IX and X. It would be seen therefrom that:—

(a) In respect of the MAX and the Transmission Divisions, standard costs for stabilised items were higher than the costs compiled by the Company by Rs. 177.31 lakhs during the three years ending 31st March, 1969.

(b) In the case of Crossbar Division, standard costs were high than the costs compiled by the Company by Rs. 233.63 lakhs during the three years ending 31st March, 1969. (Although the standard costs in this Division were subjected to an ad hoc reduction of 20 per cent. during 1968-69, the excess of standard costs over the costs compiled by the company in respect of completed orders amounted to 24.05 per cent. in 1968-69 as against 25.25 per cent. in 1966-67 and 26.76 per cent. in 1967-68).

(c) There was overall net under-recovery of overheads by Rs. 67.92 lakhs during the three years ending 31st March, 1969 (under-recovery of overheads on account of volume variance—Rs. 168.74 lakhs less saving of Rs. 100.82 lakhs on account of expenditure variance). (According to the Management, under-recovery of overheads under volume variance was due to "under-utilisation of capacity and also on account of non-employment of direct labour consequent on diversion of production work to ancillary industries and farming out of orders)."

7.15. By a procedure established in 1964, variances up to 10 per cent. are not investigated. However, as a result of the analysis undertaken by the Management in some cases where the cost variation exceeded beyond 10 per cent., the variances have been explained to be due to the following factors:—

(i) Sub-standard quality of some indigenous supplies and substitution of material in case where the standard materials is not available on any occasion.

(ii) difference in the time actually utilised as compared with the standard time;

(iii) adoption of an *ad hoc* rate pending fixation of standards;

(iv) booking of re-work cost on the same order;

(v) mix-up of bookings and deliveries with other orders;

(vi) adoption of different standards for bookings and deliveries;

(vii) use of dormant material;

(viii) deviation of standard cost from selling price (for new items) firm rates are established subsequently;

(ix) excessive labour bookings;

(x) error in pricing due to wrong indication of codes in delivery documents; and

(ix) bookings as per old layouts but standards at the revised layouts.

The Management have further stated (February, 1970) as follows:—

"Under the procedure till recently followed in ITI, shop orders used to remain current for periods longer than one year. Due to the annual revision of the standards for labour, material and overhead, the rates at which the bookings were made to the shop orders used to vary from year to year. Credit to the shop orders relating to deliveries made also used to vary from year to year, depending upon the revision of the standards. Primarily due to these reasons, there used to be some variations at the time of closure of individual shop orders.

A revised procedure whereby planning and scheduling is on a monthly basis broken down further into weekly scheduling has been adopted and is being gradually introduced. This will eliminate cost variations as have been occurring hitherto because of the long time taken in the closure of shop orders."

It may be mentioned that the variation analysis made by the Management cannot be considered comprehensive, as the cost variations on master shop orders which comprise multiple codes is not susceptible of analysis under the present system of accounting. For instance, in respect of MAX Division there was an overall cost variation of Rs. 60.18 lakhs on completed orders for 1968-69. Out of this amount, Rs. 37.97 lakhs was covered by the 72 master shop orders (out of a total of 9467 shop orders) which was not analysed.

7.16. It is seen from the details of cost variances for the years 1969-70, 1970-71 and 1971-72 that the actual cost of stabilised items were higher than the standard cost by Rs. 73.01 lakh during these years whereas in the case of non-stabilised items, actual costs were lower than the standard costs by 58.07 lakhs. The Management stated that the excess of standards over actuals for non-stabilised items was refunded to P&T while the excess in actual costs over standard costs was absorbed by the Company.

7.17. The Management also stated that, during 1969-70 and 1970-71 in 127 shop-orders|schedules and 98 shop-orders|schedules (valuing more than Rs. 50,000) the cost variation was in excess of 10 per cent and they were analysed.

7.18. The Committee pointed out that the master shop orders constituted a major portion of the overall cost variance in respect of completed orders for 1968-69 in the MAX Division and were not suspectible of analysis under the present system of accounting and asked how the Management proposed to overcome this difficulty. The Management stated as follows:—

> "Revised Production Planning and Shop Scheduling procedure has been introduced in the MAX and Transmission Divisions. The master shop order system is, however, being applied for production of homogenious codes only and that too where large numbers are involved. By applying the master order system in such cases, large amount of paper work and clerical effort are avoided. However, as a measure of control, the cycle time of the master orders has been limited under the revised planning system to a shorter period *viz.*, about six months."

7.19. The Committee enquired as to why, diversion of products to ancillary industries|entrepreneurs became necessary, when there was under-utilisation of machines. The Management stated that diversion to ancillary industries|entrepreneurs was done with a view to increase the overall production in the factory. Only such items as are needed to increase production which would need employment of more manpower and purchase of new machines were framed out to ancillary units. Such diversion therefore, did not affect the utilisation of the existing machinery since the need for mass utilisation of the existing machinery was kept in view while framing out individual items. The Management also added that 267 items of value of about 165 lakhs were at present diverted to ancillary units.

7.20 The Committee note that in respect of MAX and Transmission Divisions standard Costs for Stabilised items were higher than the costs compiled by the Company by 177.31 lakhs during 1966-67 to 1968-69 while the position was the reverse during 1969-70 to 1971-72 when the costs compiled by Company were higher than the standards by 73.01 lakhs. The Committee note that under the present system of costing, cost variances only beyond 10 per cent in respect of orders valued over Rs. 50,000, were analysed, and even such an analysis indicated a number of defects in the system. The Committee were informed that variations were primarily due to shop orders remaining current for larger periods than one year and the long time factor in the closure of shops orders. The Committee were informed that a revised procedure whereby planning and scheduling is on a monthly basis broken down further into weekly scheduling is being gradually introduced and this will eliminate cost variation as have been occurring hitherto because of the long-time taken in the closure of shop orders.

The Committee note that master shop orders constituted the major portion of the overall cost variance in respect of completed orders and these were not susceptible of analysis under the present system. The Committee were informed that "under the revised production planning and shop scheduling procedure introduced in the MAX and Transmission Divisions, master shop order system is being applied for production of homogenous codes only and as a measure of control the cycle time of master orders has been limited to a shorter period viz., about six months."

The Committee note that during 1966-67 to 1971-72 there was an overall under-recovery of overheads to the extent of 331.73 lakhs. Under recovery on account of volume variance Rs. 372.21 lakhs was offset by net saving of Rs. 40.48 lakhs on account of expenditure variance. The Committee also note that under recovery of overheads under volume variance was also to under-utilisation of capacity and also on account of non-employment of direct labour consequent on diversion of production work to ancillary industries and farming out of orders. The Committee were informed that diversion to ancillary unit was done with a view to increase the overall production in the factory and such diversion did not affect the utilisation of existing machinery. The Committee are surprised to find that, in spite of this, there is shortfall in production and the utilisation the capacity is only of the order of 60 to 70 per cent. resulting in under-recovery. The Committee urge that the reasons for under-utilisation should be investigated by a team of experts so that production performance is improved by carefully deploying the labour and putting the machines to optimum utilisation.

The Committee would strongly urge that the system of costing and procedure of cost analysis should be streamlined and put on a scientific footing so that the variations in cost could be analysed at each stage in a comprehensive manner on all shop orders and reasons for variation pinpointed and remedial measures taken to overcome the defects. The Committee hope that the revised procedure of planning and scheduling being introduced, will enable closing of shop orders in shorter intervals so that there is more effective cost control at shop levels.

Standard Costs Vs. Selling Prices

7.21. As product-wise actual costs are not compiled by the Company, a comparison of the selling prices has been made with the standard costs from 1966-67 to 1968-69. This comparison indicates that as compared with 1966-67, the selling prices and the standard costs increased during 1968-69 from 4.33 per cent. to 72.05 per cent., and from 5.30 per cent. to 73.49 per cent. in the MAX Division and from 22.90 per cent. to 80.40 per cent. and 24.04 per cent. to 81.72 per cent. in the Transmission Division, respectively. The per cent ranges of variations in the selling prices and the standard costs over those of 1966-67 in each category of equipment were as follows during 1966-67 to 1968-69.

Max					Transmission				
		Per cent.		Per cent			Per cent.		Per cent
Telephone—	SP	24·63	to	41·38	Terminating	SP	22·90	to	80·04
	Cost	25·78	to	42·71	equipment	Cost	24·04	to	81·72
PAX & SAX	SP	19·28	to	30·24					
	Cost	20·39	to	31·46	3 Channels	SP	31·84	to	45·48
Switches &	SP	4·33	to	33·85		Cost	33·06	to	46·84
Relay set	Cost	5·30	to	35·10					
P.O.	SP	21·16	to	51·95	8 Channels	SP	28·34	to	29·70
Meteres	Cost	22·28	to	53·36		Cost	29·50	to	30·90
Racks	SP	21·27	to	43·87	12 Channels	SP	29·32	to	35·77
	Cost	22·31	to	45·21		Cost	30·52	to	37·03
Relays	SP	13·35	to	52·33	VFT Channels	SP	58·32	to	63·04
	Cost	13·15	to	54·17		Cost	59·81	to	64·55
Condenser	SP	65·05	to	72·05					
	Cost	66·44	to	73·49					

(SP. : Selling Price)

7.22. In the MAX Division both the selling prices and the standard costs showed a decline in respect of Telephones (Sl. No. 1 to 4) Switches and Relay sets, Post Office Meters (Sl. No. 17 and 19) and Relays (Sl. No. 26 to 28) in 1968-69 as compared with 1967-68 whereas in the case of PAX and SAX (Sl. No. 6 to 8), Post Office Meters (Sl. No. 18), Racks and Relays (Sl. No. 24 and 25) and Condensers there was an increase during the same period. So far as the Transmission Division is concerned, there has been continuous increase both in the selling prices and the standard costs in all the items.

7.23. As under the existing system, the break-up of standard costs into raw material, labour and overhead costs is not available, the Management have given the following general reasons for variations in the standard costs from year to year:—

(i) Increase in rates due to increase in shop average rates for labour and overheads, and also raw material prices to a certain extent.

(ii) Decrease in rates due to;

(a) reduction in overhead percentages in certain shops;

(b) substitution of Palladium in place of Plantinum; as a result, contact prices in Relays have come down which influence the rates of Relays (which form the major cost in Relay Sets|Selectors).

(iii) Wide variety of items produced and the large product-mix.

7.24. The range of variations in selling prices, and standard costs over those of 1969-70 in each category of equipment was as follows during 1969-70 to 1971-72:

	MAX
Telephones	SP : 33 to 48·5% CP : 34 to 49·6%
PAX & SAX	SP : 13·53 to 38·20% CP : 13·54 to 39·29%
Switches & Relay sets	SP : 37·61 to 44·61% CP : 38·30 to 45·68%
P.O. Meters	SP : 20·02 to 20·85% CP : 20·00 to 20·92%
Racks	SP : 13·11 to 32·83% CP : 13·95 to 33·82%

	MAX
Relays	SP : 9·7 to 63·81% CP : 10·46 to 65·09%
Condensers	SP : 0·04 to 0·13% CP : 0·05 to 0·15%
	Transmission
Terminating Equipment	SP : 16·04 to 24·9% CP : 19·4 to 25·8%
8 Channels	SP : 18·03 to 34·4% CP : 18·76 to 36·4%
12 Channels	SP : 30. 6 to 31·6% CP : 24·14 to 31·6%
V.F.T. Channels	SP : 17·32 to 18·22% CP : 18·19 to 19·09%.

Duirng 1969-70 to 19971-72 in the MAX Division the selling pirces have shown (Appendix XI) an increase in respect of telephones, PAX and SAX, Switches, Relay sets, Racks and Relays. In respect of P.O. Meters and Condensers there was a decline in the prices during 1971-72. So far as the Transmission Division is concerned there has been increase in prices in respect of 8 Channels, 12 Channels, V.F.T. Channels and Terminating Equipments except under 2W Access Bay where there is slight reduction during 1971-72.

7.25. The Committee note that product-wise actual costs are not compiled by the Company to enable comparison of selling prices with such actual costs. From the comparison of the selling prices with the standard costs, the Committee find that the range of variation in the selling prices of the products of both MAX and Transmission Divisions has been wide. The range of variation in the standard costs also has been equally so. The Committee also note that there has been increase in selling prices and standard costs of several products of MAX and Transmission Divisions including the Telephones during 1969-70 to 1971-72. The Committee note that in the absence of break-up of standard costs into its constituents viz., labour, materials and overheads the Management is not in a position to indicate specific reasons for variations in standard costs from year to year.

The Committee need hardly stress that it is imperative to streamline the procedure of costing and that company should compile productwise actual costs and also analyse the variations between the standard costs and the actuals and take suitable remedial action.

C. Work-in-Progress

A. R. P. 46

7.26. (i) The Position in regard to the number of pending shop orders and the net value thereof as at the end of 1967-68 and 1968-69, is given below:—

(Rupees in Crores)

	No. of shops orders	Debits as on	Credit 31-6-68	Net Value of Work in-progress	No. of Shop orders	Debits as on	Credit 31-3-1969	Net value of work in-progress
MAX .	12,451	22·19	20·92	1·27	11,686	24·81	23·80	1·01
Transmission . .	3,405	5·93	5·24	0·69	1,965	4·58	3·79	0·79
Development .	1,016	0·37	0·33	0·44	1,756	0·52	0·44	0·08
Crossbar .	2,748	3·52	4·21	(—) 0·69	3,094	4·15	4·53	(—) 0·38
Tools	2,080	0·17		0·17	2,318	0·20		0·20
Capital	117	0·15		0·15	76	0·08		0·08
TOTAL	21,817	32.33	30·70	1·63	20,905	34·34	32·56	1·78

NOTE :—Debits represent expenditure actually booked; credits represent value of completed items delivered to stores at Standard Rates.

7.27. The numbers and value of shop orders as at the end of 1969-70 and 1970-71 was as follows:—

A. Memo of Impt. Points P. 47.	No. of shop orders	Debits as on	Credit 31-3-70	Net Value of work in-pro-gress	No. of shop orders	Debit as on	Credit 31-3-71	Net value of work in-pro-gress	No. of shop order	Debit & Credit as on 31-3-72		Net value of work in pro-gress
MAX . .	13749	20·35	18·85	1·50	8058	8·28	7·12	1·16	5042	2·82	1·44	1·3
Transmission . . .	3911	5·17	4·70	0·47	8170	4·33	3·87	0·46	11,225	5·76	5·67	0·09
Development (Instruments)	1283	0·55	0·65(—)	0·10	1772	0·66	0·45	0·21	2,310	1·16	0·96	0·20
Crossbar . .	4270	4·82	4·71	0·11	4971	5·04	3·86	1·18	5,679	5·95	4·77	1·18
Jammu & Kashmir						0·02		0·02				
Capital .	93	0·11		0·11	118	0·14		0·14	99	0·13		0·13
TOTAL . . .	23306	31·00	28·91	2·09	23089	18·47	15·30	3·17	24355	15·82	12·84	2·98

The number and the value of shop orders pending as on 31st March, 1971 were 23089 and Rs. 3.17 crores (net) and the number and the value of shop orders pending as on 31st March, 1972. were 24355 and Rs. 2.98 crores (net).

(ii) The value of work-in-progress is arrived at on the basis of cost cards for pending shop orders and does not reflect the value of the works based on the physical stage of completion. As the completed items (partial deliveries) in respect of orders in progress are priced at standard rates the value of work-in-progress as per cost cards does not reflect the correct position inasmuch as it includes the non-adjusted variation between debits at standards and credits at standards for partial deliveries.

7.28. The Management have stated (February, 1970) that "it it expected that with the reivsed shop scheduling procedure recently introduced, the balances of work-in-progress shop-wise would represent closely the stage of physical completion of the items."

(iii) Though all shop orders are required to be closed within a period of six months, large delays have been noticed in the closure of orders as indicated below:—

Age of pending orders	No. of pending orders as on				
	31-3-68	31-3-69	31-3-70	31-3-71	31-3-72
Under 1 year old	13,161	12,902	15,775	18,144	21,234
1—2 years old	5,926	5,884	4,831	2,956	2,347
2—3 years old	2,506	1,829	2,339	1,588	531
3—4 years old	198	286	347	330	239
4—5 years old	26	4	14	66	2
5—6 years old				5	2
	21,817	20,905	23,306	23,089	24,355

7.29. Analysis of outstanding shop orders having a credit balance of Rs. 5,000 and above is given below:—

(Value in lakhs of Rupees)

Division	No. of orders	Value	No. of orders	Value	No. of orders	Value	No. of orders	Value
	1968-69		1969-70		1970-71		1971-72	
MAX .	602	234·91	566	188·26	183	86·24	72	16·47
Transmission .	55	19·78	140	44·96	261	115·93	124	77·09
Crossbars .	432	138·23	325	98·82	177	44·83	295	76·13
Development .	20	10·40	24	23·77	20	4·82	40	25·29
(A) TOTAL	1109	403·32	1055	355·81	641	251·82	531	194·98
No. of Physically completed orders included in (A) .	335		389		156		223	
(B) Physically completed orders schedules .	No.	Cr. Bal.	No.	Cr. Bal.	No.	Cr. Bal.	Cr. Bal.	Cr. Bal.
	3059	81·7	3505	98·06	2528	49·89	3375	52·43
(C) Canellled orders pending investigation write off .	No.	Dr. Bal.	No.	Dr. Bal.	No.	Dr. Bal.	No.	Dr. Ba.
	251	1·41	62	0·33	41	0·38	3	

7.30. The Management informed the Board of Directors in August, 1971 that revised production planning short scheduling|scheme which was introduced in November, 1969 to achieve a better and more effective cost control did not yield the anticipated results, mainly because of deficiencies and proper documentation at the shop level and difficulties in linking the debits|credits to the individual schedules. The Committee enquired as to how the management proposed to tackle the situation so that not only the number of pending shop orders was reduced but also the value of works in progress reflects the value of work based on physical stage of completion. The Committee also desired to know when the management expected to clear the old items on the basis of progress made so far and whether the large number of pending orders was due to any defect in the system. The Committee were informed as follows:—

> "The problems arising from the introduction of the revised production planning/shop scheduling scheme are under examination with a view to taking necessary remedial action. The revised system has been introduced after detailed study and if difficulties|deficiencies encountered at present could be removed, it is felt that the scheme would prove a success.
>
> Every effort is being made to clear the old items by constant review. Some of these items were largely due to the non-availability of the balancing items required for completion of the jobs. It is expected that the old orders will be cleared as expeditiously as possible.
>
> There is no specific defect in the system."

7.31. The Committee note that the number of pending shop orders has increased from 20,905 on 31st March, 1969 to 24,367 on 31st March, 1972. The age of these orders ranges from one to six years. Although all shop-orders are required to be closed within a period of months, out of the pending orders on 31st March, 1972, as many as 2,347 orders are more than one year old, 531 orders are between two and three years, 239 orders between two and three years and 2 orders each between four and five and five and six years. The Committee also note that out of the orders outstanding on 31st March, 1972, 531 shop orders valued at 194.98 lakhs have a credit balance of Rs. 5,000 and above and these include 223 physically completed orders. The Committee note that besides, these, there are as many as 3,375 physically completed orders with a net credit balance of 52.43 lakhs. The Committee also note that the value of work-in-progress is arrived at on the basis of cost cards for pending

shop orders and does not reflect the value of the works based on the physical stage of completion. The Committee find that the Management informed the Board of Directors in August, 1971 that the revised production planning|shop schedule scheme introduced in November, 1969 to achieve a better and more effective cost control did not yield the anticipated results mainly because of deficiencies in proper documentation at the shop level and difficulties in linking the debits|credits to the individual schedules. The Committee were informed that the problems arising from the introduction of the revised production planning|shop schedule schemes are under examination with a view to taking necessary remedial action and if the difficulties|deficiencies encountered could be removed, the scheme would prove a success. The Committee strongly urge that the company should take expeditious action to identify the deficiencies and defects and the reasons therefor and take immediate remedial action to remove them so that a correct picture of the value of work in progress is available.

The Committee were also informed that efforts were being made to clear the old items by constant review. The Committee need hardly stress that the Company should adopt more business-like practices to ensure timely execution of shop orders and strict adherence to delivery schedules.

VIII

PRICING POLICY

A. Sales to Posts and Telegraphs Department

8.1. The Post and Telegraphs Department is the Company's main customer which purchases about 80 per cent of the total production. For purposes of pricing, sales to the Department are divided into (i) stabilised items and (ii) non-stabilised items.

(i) *Stabilised items*

Until March, 1965 sales were regulated in terms of "cost plus" agreement. The margin of profit allowed was 7½ per cent. upto 1st October, 1961 and 10 per cent. to the end of 1964-65. A "Fixed Price" arrangement valid for a period of four years will effect from 1st April, 1965 was finalised in June, 1966. In terms of this arrangement, the Company was to be paid on the basis of the 1st April, 1965 rate list plus a margin of 10 per cent. with actual escalation on labour and material costs. This arrangement could not, however, be given effect to as it was rescinded by the Posts and Telegraphs Department in August, 1967. The sales for 1965-66 and 1966-67, were, therefore, settled on 1st April, 1965 rates without adjustment for costs.

During December, 1967, a revised arrangement was agreed upon between the Company and the Department according to which prices for sales to Posts and Telegraphs are to be determined on the basis of the previous years material costs and the current years' shop labour average rates and the current year's budgeted revenue overheads with a margin for contingencies and profit.

Subsequently an agreement was entered into by ITI and P&T Deptt. according to which the prices are to be fixed from year to year on the basis of the cost of sales as determined with reference to the costs as at the commencement of the year with a further provision for escalaction in labour material costs on account of statutory and labour awards|statutory increase and levies with 10 per cent profit margin. It was also agreed that the cost of sales for the purpose of profit margin while including direct and indirect expenditure would exclude bonus (ex gratia) payments in excess of the

4 per cent minimum payable under the Bonus Act, 1965. These terms would be valid for a period of two years from 1st April, 1972.

8.2. From the above it would appear that the sales for 1965-66 and 1966-67 were settled on 1st April, 1965 rates without adjustment for costs and thereafter, till 31st March, 1972 on the basis of the revised arrangements agreed upon in December, 1967. The Management, however, clarified that the basis referred to above applied to stabilisd supplies and for non-stabilised supplies, cost variations determined at the end of the year were adjusted with P&T Department.

8.3. During evidence, the Committee enquired whether Government had given their concurrence before the agreement regarding pricing of the stabilised items of equipment was entered into by ITI, and whether the approval of Government was obtained before the pricing policy of various products of ITI upto 1st April, 1972 was settled and if so, how the present policy compared with the previous one. The Secretary of the Ministry of Communications stated in reply as follows:—

> "As far as this is concerned, we have changed our present policy w.e.f. April this year. We have entered into a new agreement between P. & T. and ITI which is effective from April, 1972 and some very significant changes have been made. If I may mention a few of these, formerly, in the old agreement, overheads were allowed on the basis of budget revenue for subsequent years. But in the new agreement overheads are allowed. We have said actual expenditure incurred for each cost centre during the year immediately preceding 1971-72. This is for two years, that is, 1972-73 and 1973-74. We have included, in the old agreement, the entire payment which was made as bonus to the workers. But, in the new agreement, for example, we allowed 10 per cent profit even on the interest charges paid by ITI on loan. We have made out this interest charge in the new agreement. This margin of profit in the old agreement was 10 per cent whether it was full equipment or spares. We felt that it was rather inadequate to the ITI where the handling charge is much more. So, we have increased the profit margin on the spares to 30 per cent. But in the main equipment, it is still 10 per cent. But the important change is that in the

old agreement, there was no fixed efficiency provided for. But in the new agreement we have said that it will be calculated on the basis of 90 per cent efficiency. In other words, we have removed the premium on inefficiency. We have fixed definite basis for efficiency."

Asked whether that would affect the profits of the Company, the Secretary stated that there might be marginal effect on the profit and added that if they improved their efficiency they could make it up.

8.4. In regard to the fixation of prices of their products within the basis of landed cost of the comparable imported goods, the Chairman ITI stated during the evidence as follows:—

"....I am happy to inform the Hon'ble Committee that we are well within the imported cost. In fact the P. & T Deptt. is very strict with us and normally we can sell our equipment to them at much cheaper prices than anywhere. Whether we compare the stronger equipment, crossbar equipment or transmission equipment, our prices are well within the imported cost."

The Committee enquired whether the selling prices fixed by the Company were in conformity with the guidelines issued by the Bureau of Public Enterprises in December, 1968. They were informed that on a detailed examination of the selling price structure, it had been found that the selling price fixed by the Company was in conformity with the guidelines issued by the Bureau of Public Enterprises.

B. Refunds of amounts due to the Post and Telegraphs

8.5. On 1st January, 1968, sum of Rs. 3,28,64,913 became due for payment by the Company to the Posts and Telegraphs on account of refund of amounts provisionally paid to the Company towards escalation during 1966-67 and refund on account of bulk settlement made for the earlier years. In February, 1968, it was decided that this amount should be paid by the Company in eleven quarterly instalments of Rs. 27 lakhs each commencing from 1st January, 1968 and the balance on the 12th quarter with interest at the rate of 6.75 per cent. The Company had so far paid nine instalments upto 30th September, 1969, amounting to Rs. 2.43 crores and in addition an amount of Rs. 26.89 lakhs had been paid by way of interest for the period from 1st January, 1968 to 30th September, 1969.

During the years 1967-68 and 1968-69, the refunds due to P. & T. Deptt. on account of cost variation on non-stabilished items amounted to Rs. 153.88 lakhs and Rs. 111 lakhs respectively. The amount of Rs. 153.88 lakhs for the year 1967-68 was repaid in 12 equal monthly instalments commencing from October, 1968 and the Company made a provision of Rs. 9.30 lakhs towards interest on this amount at 6.75 per cent for 1968-69.

8.6. The Committee enquired whether, in view of the fact that variation on non-stabilished items was a recurring feature, the Management considered it necessary to lay down a uniform policy for payment/recovery depending upon the fact whether the cost variation was favourable or unfavourable to the Company. They were informed that while the repayment of Rs. 111 lakhs was completed before March, 1970, their "present policy" is to refund credit variations before expiry of the following financial year after determining the amount of cost variations on finalisation of the accounts for the earlier year." During 1969-70, the amount recoverable on debit cost variation was Rs. 20.71 lakhs. During 1970-71 the amount refundable to P. & T. was Rs. 71.42 lakhs. The net amount refundable to P. & T. was then Rs. 50.71 lakhs which was refunded to P. & T. in March, 1972. The figure of cost variation for the year 1971-72 on non-stabilised items was debit variation of Rs. 2.75 lakhs recover able from the P. & T.

As regards interest charges, it was stated that the Company would desire P. & T. waiving the claim for interest on cost variations, and that the matter would be taken up with P. & T. Department.

8.7. The Committee drew attention of the Government during evidence to the statement of the Management of the Company that 'cost variation under the standard costing system affect the profitabiliy of the Company, but this cannot be avoided' and enquired whether Government shared this view. The Secretary of the Ministry stated in reply that there was no difficulty because if there was any excess or deficit in the estimate, this was made good by the P. & T. or refunded to the P. & T. He added that it did not affect their profit margin.

8.8. The Committee find that about 80 per cent of the products manufactured by ITI are supplied to Posts and Telegraphs Department under the pricing terms incorporated in an agreement between the Company and P & T. The Committee are, however, surprised to note that since inception no proper and fixed pricing policy has been

evloved by the Government with regard to the sale of the both stabilised and non-stabilised items for production. The ad hoc arrangements had to be revised on several occasions as they were found not working to the satisfaction of either the ITI or the P & T. The Committee note that the pricing policy has been changed with effect from April, 1972 and new agreement has been entered into between P. & T. and ITI. Even the present agreement provides for adjustments of the payments/recoveries for cost variations. The excess or deficit in the estimates are to be made good by the P. & T. or refunded to P. & T. as the case may be.

The Committee note that conflicting statements have been made by the Management and the Ministry as to how far the cost variation under the standard costing system would affect the profitability of the Company. The Committee also note that in the new agreement it has been presumed that the Company would run at 90 per cent efficiency. As the efficiency depends upon many factors like labour-management relations, adequate supply of material, proper training of the workers etc., the profitability of the Company is likely to be affected by all the variable factors presumed in the new agreement.

Since the ITI have the benefit of latest machinery and equipment in their production units and advantage of a large captive market, the Committee need hardly stress that the undertaking should improve its efficiency, increase out put and effect economies so as to bring down the cost of manufacture of their products to even less than the international prices so that the products of the ITI can benefit even the Common man.

8.9. The Committee also note that in the case of non-stabilised item the present policy is to refund credit variation before expiry of the following financial years after determining the amount of cost variations on finalisation of the accounts for the earlier year.

The ITI are proposing to request P. &. T. to waive the claim for interest on cost variations. The Committee would like to be informed of the development. The Committee would, however, stress the need for settling the credit variations soon after the close of the financial year so that payment of interest charges to P. & T. can be avoided.

IX

MATERIAL MANAGEMENT AND INVENTORY HOLDINGS

A. Inventory Holdings

9.1. The following table indicates the comparative position of the inventory and its distribution at the close of the last six years:—

(Rs. in Lakhs)

	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
(i) Raw material and production stores	1,033·92	1,212·22	1,095·80	1,001·99	1,161·37	1,531·70
(ii) Installation stores .	14·34	16·54	17·86	47·81	49·22	43·96
(iii) Non-production stores	50·40	48·75	46.09	48·45	56·63	52·01
(iv) Works-in-progress including installation works-in-progress .	232·02	151·99	173·25	209·36	314·20	296·42
(v) Finished goods . .	117·68	147·69	127·33	65·58	46·90	64·21
(iv) Others excluding materials-in-transit .	82·79	96·68	52·91	71·75	88·26	275·61
	1,531·15	1,673·87	1,513·24	1,444·94	1,716·58	2,263·91

The stock of raw materials including installation and production stores was equivalent to about 15-3/4 months' consumption for production requirements in 1968-69, 19 months' in 1967-68 and 18 months' in 1966-67. The store was however equivalent to 16 months' production requirements in 1971-72 as compared with 15 months' in 1970-71 and 16th Months' in 1969-70.

The work-in-progress represented about 1-1/4 months' value of production at cost (including depreciation) at the end of 1971-72 as compared with about 1-3/4 months' at the end of 1970-71 and 1-1/2 months' at the end of 1969-70. The position at the end of 1968-69 and 1967-68 was however, 1-1|4 months' value of production against 2 months' at the end of 1966-67.

Finished goods represented about 0.7 months' sales during 1968-69 as against about 0.9 month's during 1967-68 and 1966-67. Finished goods represented 0.2 months sales during 1971-72 as against 0.3 months sales during 1970-71 and 0.4 months during 1969-70.

9.2. The break-up of the closing stocks of raw materials and production stores as between purchased and manufactured items for the last six years was as follows:—

(Rs. in Lakhs)

Particulars	1966-67	Percentage increase over previous year	1967-68	Percentage increase over previous year	1968-69	Percentage increase over previous year	1969-70	Percentage increase over previous year	1970-71	Percentage increase over previous year	1971-72	Percentage increase over previous year
Purchased items	778·45	39	872·30	12	725·73	(—)17	690	(—)5·0	807	17·0	1066	33·6
Manufactured items	255·47	26	339·92	33	370·07	9	312	(—)15·6	354	13·5	466	31·6
	1,033·92	30	1,212·22	17	1,095·80	(—)10	1002	(—)8·6	1161	15·9	1532	32%

The Committee enquired why fresh purchases were made when the inventory of raw materials was 15-3|4 months' consumption in 1968-69 and 16 months' consumption in 1969-70 (and also in 71-72.) They were informed that fresh purchases were made on the basis of assessment of existing stock levels, pending orders and projected requirements for production.

9.3. The Committee pointed out that the norms for inventory should not be more than 6 months consumption as recommended by them in their 40th Report (3rd Lok Sabha) on Material Management. On this basis the stock of raw materials and production stores which represented 15-3|4 months' consumption in 1968-69 appeared to be very high. The Committee enquired about the steps taken to reduce the inventory. They were informed that the inventory of the Company was made up of purchased items as well as items manufactured in the Company and held in stock. On purchased items, the inventory holdings amounted only to an average of about 9 months in most of the cases. Manufactured items were turned over to stores as soon as the manufacture was completed for being readily available for the next phase of assembly/production. In respect of imported items, because of the lead time in procurement and availability of import licence/foreign exchange, the stock holdings were relatively higher. It was necessary to maintain stocks of Critical items for longer periods and also to maintain buffer stocks. They were further informed that the inventory holdings were under constant review so as to reduce them consistent with the exigencies of production.

The Committee wanted to know what, according to the Management, should be the normal level of inventory holdings on the basis of their past experience. The Committee were informed that the following were considered reasonable inventory holdings in terms of production requirements.

(*a*) Indigenous items	6 months
(*b*) Imported items	9 months
(*c*) Fabricated items	1·5 months

Particulars of inventory of raw materials and production stores separately of indigenous and imported origin are now available from Computer statements. The opening stock, purchases, consump-

tion and closing stock separately for indigenous and imported items —are detailed below for the years 1971-72:

(Rupees in lakhs)

	Indigenous	Foreign	Total
Opening Stock (1-4-71)	422	385	807
Purchases	937	614	1551
Total	1359	999	2358
Consumption	807	480	1287
Closing Stock 31-3-72	552	519	1071
Closing Stock in terms of number of months consumption during the year	8·2	12	10

9.4. The Committee enquired as to what was the scope for improvement in the stores management. They were informed that,:—

> On the basis of the past experience, the normal level of inventory holdings should be about 13-14 months for our industry. We are, however, examining the position with a view to reduce the stock-holdings. The bifurcation of the data and their computation as number of months' production is being worked out."

9.5. During evidence, the Secretary of the Ministry of Communication conceded that inventory in ITI was very high and stated that the team of consultants from the Hyderabad Staff College to whom the study of material management was entrusted had completed the work and given their recommendations.

It is seen from the report of the Administrative Staff College Hyderabad that "study of the procurement procedures in I.T.I. has clearly revealed that the way in which purchase has been functioning in this organisation is causing considerable problems in production. Even granting the fact that due to the basic nature of industry like that of ITI there are a number of external and uncontrollable factors influencing the availability of sophisticated materials. The organisational inflexibilities and adherence to elaborate procedural formalities have contributed their own share*** Ad hoc decision such as annual identing decentralising the purchase function etc. without adequate pre-planning show trends in dislocation of functions, crisis and inventory piles."

Some of the important recommendations regarding the radical changes to be made are as follows:—

(1) To accept the principle of approaching vendors that have been approved already and not to combine vendor location with buying.

(2) To operate on a highly decentralised style permitting the various indentified levels responsible for specified decisions.

(3) To provision, budget and control performances on the basis of proper information flow.

* * * * *

Implementation of these can be taken up immediately on a progressive basis.

Considerable further work remains to be done by the Company to achieve the best results out of the proposals. Some of these are:—

(a) Building up files on vendor reliability

(b) Fixing up of individual and divisional inventory levels.

(c) Fixing up of order levels and quantities

(d) Programming for the additional outputs from the computer

In addition, it was noticed by us that there is considerable scope for material standardisation in ITI. Every different size and characteristic is practically indentified as distinct item resulting enormous number of items dealt with. There is urgent need for setting up a material standardisation cell which can eliminate considerable number of items.

Considerable interchangeability exists among raw materials. While this help maintaining production schedules in spite of non-availability of certain raw materials, such decisions of use of alternative materials are not evaluated from the point of view of cost benefits. There may be scope for economies in this direction also.

In this connection the Secretary of the Ministry stated that the Managing Director of the Company had assured him that the recommendations would be implemented soon. The Secretary also stated that now they had got a computer which came in handy and they could exercise much closer control over recepits and issues.

9.6. The Committee note that the stock of raw materials including installation and production stores as on 31st March, 1972 was equivalent to 16 months' requirements. Although the inventory level has been brought down from 19 months' in 1967-68 to 16 months' in 1971-72, the Committee feel that the inventory is still very high, compared to the norm of 6 months' requirements recommended by the Committee on Public Undertakings in their 40th Report (3rd Lok Sabha) on Material Management. Even according to the Management, the inventory holdings considered reasonable in terms of production requirements were 6 months in the case of indigenous items and 9 months in the case of imported items. The Committee also note that the inventory of raw materials has risen from Rs. 1161.37 lakhs in 1970-71 to Rs. 1531.71 lakhs in 1971-72 and the increase has been mainly due to purchased items.

9.7. The Committee note that the system of material management in the Company had been got examined by the Administrative Staff College, Hyderabad who while giving their report and recommendations had observed that "Ad hoc decisions such as annual indenting, decentralising the purchase function etc. without adequate preplanning show trends in dislocation of functions, crises and inventory piles".

The Committee feel that the Company should have by this time implemented the recommendations contained in the report of the Administrative Staff College and taken appropriate action to streamline the purchase procedure which at present is stated to be causing considerable problems and ensure that the level of inventory is brought down to the norms considered reasonable consistent with the exigency of production so as to avoid unnecessary accumulation of stores resulting in locking up of capital.

9.8. The Committee also recommend that ITI should also take advantage of the computor for working out an effective system of inventory control.

B. Dormant and Slow-moving Stores

9.9. The following table indicates the value of dormant and slow-moving stores, the total value of inventories, the value of dormant stores as a percentage of the value of inventories and the value of dormant and slow-moving stores as a percentage of the value of inventories, as at the end of 1967-68 to 1970-71.

1967-68

(Rupees in Lakhs)

Particulars	Dormant stores	Slow-moving stores	Total (1+2)	Total inventory as on 31st March	Percentage of dormant stores to inventory	Percentage of slow-moving stores to inventory	Percentage of dormant and slow moving stores to inventory
1. Raw material and MAX stores	36·00	89·70	125·70	456·10	7·9	19·7	27·6
2. Transmission	54·10	42·10	96·20	315·20	17·2	13·4	30·5
3. Other stores—Plant, Oils and Chemicals Engineering and sales stores	12·50	..	12·50	60·00	20·8		20·8
	102·60	131·80	234·40	831·30	12·3	15·9	28·2
			1968-69				
1. Raw Materials and MAX stores	43·50	111·50	155·00	460·30	9·5	24·2	33·7
2. Transmission	58·40	56·70	115·10	259·80	22·5	21·8	44·3
3. Other stores—Plant, Oils and Chemicals Engineering and sales stores	16·40	..	16·40	57·00	28·8		28·8
	118·30	168·20	286·50	777·10	15·2	21·6	36·9

NOTE : 1. The value of dormant (Rs. 47·93 lakhs) and slow moving (Rs. 83·57 lakhs) stores at the end of 1966-67 amounted to Rs. 131·50 lakhs, the Division-wise break-up of which is not available.

2. Dormant stores represent items with no transactions during the year.

3. Slow-moving stores represent items where issues are less than half of the annual requirements.

4. Value of dormant stores as on 31-3-1969 is provisional. It does not include dormant items pertaining to crossbar and non-production stores not yet computerised.

(Rupees in Lakhs)

Particulars	Dormant Stores	Slow-moving Stores	Total (2+3)	Total inventory as on 31st March	Percentage of Dormant stores to inventory	Percentage of slow moving stores to inventory	Percentage of Dormant and Slow Moving Stores to inventory
			1969-70				
1. Raw materials and MAX	22·06	55·56	77·62	395·07	5·58	14·00	19·6
2. Transmission	38·19	66·29	104·48	185·15	20·62	35·8	56·3
3. Other Stores Plant, Oils & chemicals, engineering and Sales Stores	14·18	716	21·34	56·73	24·99	12·62	37·4
	74·43	129·01	203·44	636·95	11·5	20·25	31·9
			1970-71				
1. Raw materials and MAX	13·46	53·64	67·10	490·33	2·74	10·94	13·6
2. Transmission	6·87	47·98	54·85	228·46	3·00	21·00	24·0
3. Other stores Plant Oils & chemicals engineering and sales stores	11·27	33·33	44·60	63·42	17·77	52·55	70·04
	31·60	134·95	166·55	782·21	4·04	17·25	21·3

9.10. The total vaue of dormant stores pending review by Dormant Stores Committee as on 31st March, 1971 was Rs. 52.65 lakhs and the position on that date was as follows:—

1. Recommendation of the Dormant Stores Committee.

(a) Used/useable	31.52	(Rs. in lakhs)
(b) To be scrapped/disposed	5.43	(Rs. in lakhs)
(c) To be revi:wed	15.70	(Rs. in lakhs)
	52.65	(Rs. in lakhs)

The following table indicates the value of Dormant and Slow Moving Stores, the total value of inventories, the value of dormant stores as a percentage of the value of inventories and the value of dormant and slow moving stores as a percentage of the value of inventories as at the end of 1971-72.

(Rs. in lakhs)

Particulars	Dormant Stores	Slow-Moving Stores	Total	Total inventory as on 31-3-72	Percentage of Dormant Stores to inventory	Percentage of slow moving stores to inventory	Percentage of Dormant and Slow Moving Stores to Inventory
Raw Materials and Max Stores	34·26	57·56	91·82	630·70	5·43	9·13	14·56
Transmission	30·36	45·40	75·76	328·92	923	13·80	23·03
Crossbar	4·87	15·89	20·76	196·54	2·48	8·08	10·56
Other Stores, Plant, Development, Sales Stores, Engineering, Building, General and Regional Offices	17·29	13·69	30·98	148·92	11·61	9·20	20·81
TOTAL . . .	86·78	132·54	219·32	1305·08	6·65	10.16	16·81

9.11. It would be seen from the foregoing that dormant and slow moving stores increased in 1968-69 as compared to 1967-68 but came down in 1969-70 and 1970-71 and again increased in 1971-72. The dormant stocks as at the end of March, 1969 amounted to about 18.2 per cent of the inventory (Rs. 771.10 lakhs). The position was, however, 4.04 per cent of the inventory in 1970-71 and amounted to 6.65 per cent of the inventory of Rs. 1305.08 lakhs in 1971-72.

Raw materials, MAX and Transmission Stores account for the bulk dormant and show moving stores which have shown an increase of Rs. 48 lakhs approximately from 1967-68 to 1968-69 and Rs. 46 lakhs from 1970-71 to 1971-72.

9.12. Out of 102.6 lakhs held as dormant stores as on 31-3-1968 stores valued at Rs. 24.37 lakhs carried forward from the previous years were declared unsuitable and out of these stores valued at Rs. 15 lakhs (reduced to Rs. 10.20 lakhs in 1968-69 after re-instating stores of the value of Rs. 4.80 lakhs which were found useful for production) were written off in the accounts for 1967-68. A committee was appointed in October, 1968 to review these stores valued at Rs. 24.37 lakhs. The progress in investigation of these items as on June, 1969 is indicated below:—

Particulars	Number of items	Value in Rupees
(*i*) To be used in base departments	2,721	8,98,042
(*ii*) To be used in other Departments	223	51,567
(*iii*) To be scrapped/disposed	1,384	2,97,558
	4,328	12,47,167

Again, stores valued at Rs. 14.66 lakhs were reviewed by the Committee and, as a result, stores valued at Rs. 6.8 lakhs were written off during 1968-69. The Company has further charged off a sum of Rs. 15 lakhs in respect of dormant stores during the year pending final review. Thus, the Company has written off a such of Rs. 32 lakhs in respect of dormant stores during 1967-68 and 1968-69.

9.13. The Committee enquired about main factors which led to the items being domant or slow-moving and the steps taken by the Management to reduce the incidence of dormant and slow-moving items. The Committee also desired to know the position regarding the review of dormant and slow-moving items as on 31-3-71 and the amount of dormant stores which had been writen off by the Company since inception.

The Management stated in reply as follows:—

"Dormancy/slow-moving items relate to the accumulations over a period of time. In the field of telecommunications fast developments take place rendering components obsolete in relatively short periods of time. Due also to modifications, improvements and functional changes, components become dormant. Due to changes in priorities and product-mix, incidence of slow-moving items also comes up from time to time.

The incidence of dormancy and slow-moving stores in relatively high in Transmission Division because of the fact that the changes, modification and improvements take place at a relatively faster rate in Transmission equipments.

Action is being taken to make the best possible use of the dormant/slow-moving items, including their disposal at price favourable to the Company.

The value of dormant items pending review as on 31-3-71 was Rs. 52.65 lakhs. Out of this the review has disclosed that items worth Rs. 31.52 lakhs are used/usable and only Rs. 5.43 lakhs worth of items are to be disposed off. The balance to be reviewed is Rs. 15.70 lakhs. Items are declared as dormant where there are no issues during two years including the current year and no receipts during the current year. The criterion is considered to be reasonable and practicable.

Against the accumulations of Dormant items from the inception of the factory, the total write off adjusted in the accounts of the Company for the period from 1967-68 to 1971-72 amounted to Rs. 37.42 lakhs. Items declared as scrapped were transferred to Scrap Account which has been credited with the realistions from their disposal."

9.14. The Committee desired to know whether any criterion for

declaring an item as dormant/slow-moving has been laid down. The Company stated as follows:—

"The criterion for declaring an item as dormant is that there are no issues during the two years including the current year and no receipts during the current year. Items which have no receipts during the current year and year-end stocks exceed the years' consumption are regarded as slow-moving."

"While it is possible to assess the total dormancy/slow-moving items, it is not practicable to determine dormancy/slow-moving items attributable to each one of the reasons".

In this connection the Committee observed that certain items had become dormant and slow-moving due to—

(i) Items kept in stock against possible requirements of spares for equipments of earlier design supplied to the customers;

(ii) spares for equipment and plant which would move only if and when they are required for use on particular items of plant and equipment; and

(iii) "sale stores" comprising finished items kept handy for being supplied against customer requirements.

The Committee wanted to know the value of items against (i) to (iii) above.

In a post-evidence written reply the Management stated as follows:—

"Spares for equipments which are on the production lines of the Company are manufactured based on the customers requirements. In such cases, as a rule, there are no accumulations in the inventory. In respect of spares for equipments not currently on the production lines, certain spares are held in stock against likely demands from the customers. These relate mostly to Transmission equipments owing to the faster developments and change in requirements in this field. The value of such stores which can be regarded as spares kept for being supplied to customers in respect of earlier designs, related to total dormant stores is estimated at about 10 per cent.

The total value of items in Plant Stores as on 31-3-1972 amounted to Rs. 27.74 lakhs. In Plant Stores, the spares kept include also accessories received as part of machinery which are kept separately to be drawn only as and when required. There are also other spares purchased for maintenance and replacement. The number of items of spares and accessories not moved for 2 years as on 31-3-1972 was 4738 valued at Rs. 8.61 lakhs. In relation to the total number of machines, *viz.*, 3046, the items of spares held in stock for use on maintenance and replacements and accessories retained in Plant Stores cannot, be considered as heavy.

The value of items in Sales Stores as on 31-3-72 amounted to Rs. 19.48 lakhs. The value of Dormant Stores *viz.* for 1151 items, was only Rs. 1.15 lakhs."

9.15. The Committee note that the value of dormant and slow-moving stores increased from Rs. 234.4 lakhs at the end of 1967-68 to Rs. 286.5 lakhs at the end of 1968-69. Though it came down to Rs. 166.55 lakhs at the end of 1970-71, it again increased to Rs. 219.32 lakhs at the end of 1971-72 representing 16.81 per cent of the inventory. The Committee also note that the value of dormant stores alone ranged from 12.3 per cent of the inventory in 1967-68 to 6.65 per cent in 1971-72. The bulk of dormant and slow-moving stores was accounted for by the raw materials, MAX and Transmission Stores which have shown an increase of Rs. 48 lakhs from 1967-68 to 1968-69 and again Rs. 46 lakhs from 1970-71 to 1971-72. The Committee were informed that items had become dormant/slow-moving due to frequent changes in the methods processes, design which had taken place in the factory especially in Transmission equipments.

9.16. The Committee were informed that items had become dormant and slow-moving due to frequent changes in methods, processes and designs which had taken place in the factory especially in Transmission equipment. The Committee also note that against the accumulations of Dormant items from the inception of the factory, stores of the value of Rs. 37.42 lakhs had been written off. The Committee are concerned to find that while on the one hand shortfalls in production are attributed to the shortage of raw materials and Transmission Stores, and machinery and labour remain idle on this account, on the other, there are accumulations of dormant and slow-moving equipment which are ultimately written off. The Committee

recommend that purchase of materials especially Transmission Stores and Transmission Equipments which are suspectible to frequent changes in design, methods, processes, etc. should be regulated after a careful assessment of the requirements to avoid accumulation of stores over long periods and ultimately becoming obsolete or warranting written off.

They have been informed that a Committee had been appointed to review the stores declared dormant/slow-moving. The Committee hope that a careful analysis of the dormant and slow-moving stores will be made so as to segregate items which are really surplus to requirements and action taken to dispose them of in the best interest of the Public Undertaking.

C. Import Substitution

9.17. The information in regard to the total number of items (raw materials and components) imported by the Company from year to year is not readily available. However, the number of items for which import of raw materials and components has been substituted during the last six years amounting to Rs. 348.58 lakhs, is given below Division-wise:—

(Rs. in lakhs)

Year	RAW MATERIALS							
	MAX		CROSSBAR		TRANSMISSION		TOTAL	
	No. of items	Value	No. of items	Value	No. of items	Value	No. of items	Value
1	2	3	4	5	6	7	8	9
1966-67	10	3·23	1	0·47	3	0·97	14	4·67
1967-68	2	20·01	..	..			2	20·01
1968-69	1	28·00	1	12·00		..	2	40·00
1969-70	..	9·00	..	38·20		6·00		53·2 0
1970-71	2	2·32	1	0·25			3	2·57
1971-72	3	1·74	..				3	1·74
	18	64·30	3	50·92	3	6·97	24	122·19

COMPONENTS

1966-67 ·	26	23·89	10	8·77	6	5·38	42	38·04
1967-68 ·	7	6·65	21	23·41	1	0·85	29	30·91
1968-69 ·	2	0·03	9	26·07	1	0·01	12	26·11
1969-70 ·	..	..	122	24·75	9	4·56	131	29·30
1970-71 ·	23	35·09	100	17·20	4	13·19	127	66·44
1971-72 ·	1	00·09	10	10·24	15	25·26	26	35·59
	59	65·75	272	110·44	36	49·25	367	226·39

9.18. The Committee desired to know the remedial measures the Managements proposed to adopt to do away with the continued dependence on imports and to rectify the defective supply of raw materials. They also asked the Management to give details of such components which were being imported indicating the foreign exchange involved annually in the import of these components. The Committee also desired to know how soon the Company was likely to become self-reliant in this respect. The Managements stated as follows:—

"Many of the items cleared for import are specifically required for telecommunication equipment and to dimensions for which generally commercial demand is too small and nobody in the country can be interested in taking up the requirements of ITI.

Apart from this, ITI also imports components or sub-assemblies which are proprietory items of manufacture of the collaborators namely M/s. BTM of Antwerp The quantum and number of these items steadily decrease as corresponding items are manufactured in ITI for which a specific programme exisits. At present, import is restricted to components of Trunk Automatic Exchanges, Pentaconta Telex Exchanges and for a safety buffer stocks of selected components for which raw material supplies within the country is some what uncertain.

ITI also imports, on special licences microwave antenna and wave guides for use with the microwave systems manu-

factured and supplied to the P&T by ITI. ITI also imports special purpose electronics instruments on capital licences for the Research department and for supply to the P&T. A proposal has been made for manufacture of these instruments, the antenna and wave guides, etc. in one of the new units of ITI to be set up during the Victoria Period.

Indian Telephone Industries have a Resources and Utilisation Department whose main task is import Substitution. They undertake a study of the specifications of imported equipment and material and see to what extent these can be brought in line with general specification for available material within the country. In case of special requirements, they contract indigenous suppliers, supply the necessary know-how and promote indigenous manufacture of material and components at present being imported. As a result of efforts in this department, ITI has saved a foreign exchange equivalent to Rs. 4.16 crores recurring in the period from 1965 to 1972. These efforts are continuing. With the establishment of Ancillary Units in Bangalore, import substitution is expected to be accelerated.

While the pace of import substitution has been fairly satisfactory there is scope for improvement. One of the more important materials imported in large quantities by ITI is the Ferrite Cores used for Transmission equipment. ITI's annual requirement which is entirely imported is of the order of 10 tonnes valued approximately at Rs. 55 lakhs. Even as early as 1963 ITI had sent a proposal for setting up manufacture of ferrites in collaboration with approved foreign manufacturers. This proposal, however, was not approved as research was in progress in the National Physical Laboratory at the time for establishing indigenous know- how for manufacturing of ferrites. After a lapse of nearly 8 to 9 years, indigenous manufacture of high permeability ferrite cores is yet to be set up and ITI's requirements are still being imported. There are hardly two or three firms in the world who have the competence to transfer know-how for manufacture of quality ferrites. If ITI's proposal for setting up manufacture had been approved manufacture of ferrites within the country would have started well before the present time. Even now it would not be too late to look for such collaboration in a very limited but highly specialised field where the foreign exchange requirements would be only a fraction of the present value of imports.

Another field of indigenous manufacture where progress has been very slow compared to that in advanced countries in the field of integrated circuits. There has been a rapid advance in the field of digital communication and even traditional areas using analogue system of communication have been taken over by digital communication for reasons of reliability and cost. Integrated circuits of various types are basic building blocks in digital communications as in other associate fields like computer application desk calculators, electronic exchanges etc. Unless the gap in this field is made up by crash effort in establishing indigenous manufacture, systems produced in the country would be outdated and obsolete even before they are put in the field, unless we resort to large scale import involving valuable foreign exchange."

9.19. The items cleared for import and their annual value is indicated below:—

	(Rs. in lakhs)
1. Nickel silver	85·00
2. Ferrite cores	55·00
3. Antenna and Wave guide & Accessories	43·00
4. Reed Relays	40·00
5. High Permeability Liminations	25·00
6. Connectors	18·00
7. Ringing Machines, Ringing Dynamotors, Convertors and Spares	12·00
8. Aluminium Alloy Tube	1·20
9. Phosphor Bronze Sheet/Strip/Wires/Tubes	2·10
10. Tinned Brass Strips	2·80
11. Tinned Brass Wire	5·60
12. Priyadarshini Receiver Magnets	1·40
13. Receiver Magnet	1·10
14. Varistors PVAR	0·30
15. Copper Clad Laminates Glass Expoxy	3·50
TOTAL	296·00

(The value of items indicated against 1 to 7 above amounts to about 94 per cent of the total).

9.20. The Committee note that the Company has achieved import substitution of raw materials and components to the extent of Rs 348.58 lakhs from 1966-67 to 1971-72. As conceded by the management themselves, "while the pace of import substitution has been fairly satisfactory, there is scope for improvement."

The Committee find that the Company is still importing 296 lakhs worth of materials annually. One of the more important materials imported in large quantities by ITI is the ferrite core used for transmission equipment, the annual requirement of which is of the order of ten tons valued at approximately Rs. 55 lakhs. In this connection, the Estimates Committee in their 103rd Report, Third Lok Sabha (1965-66) had observed that, "....though two firms were licenced in August, 1963, and July, 1964 to manufacture soft ferrites with the process developed by National Physical Laboratory, they have yet to go into full production, thus necessitating import of soft ferrites in addition to their production departmentally by the National Physical Laboratory. The Committee recommend that National Research Development Corporation should ensure that the parties, who are granted licences for commercial exploitation of the CSIR processes, actually adhere to the stipulated schedules for commercial production and that the production targets are adhered to by them in actual practice.

9.21. The Committee should think that since soft ferrites can be manufactured with the know-how developed by National Physical Laboratory there should be no occasion for allowing foreign collaboration for manufacture of this variety of soft ferrites. Effective measures should also be taken to ensure that production of soft ferrites is commenced immediately by the firms concerned, with the National Physical Laboratory process, in order to meet all internal requirements so that the import of soft ferrites and departmental production by National Physical Laboratory could be stopped as early as possible.

The Government in their reply to this recommendation stated that the licences issued to these two firms became effective from 1-4-64 and the firms had gone into production from 1-10-65 and 15-9-65 respectively. One of these firms had also asked for expansion of its unit and a letter of approval had been issued. In addition, licences to three more firms had also been issued. From the above it would appear that 5 firms are engaged in the manufacture of ferrites based on the know-how developed by the National Physical Laboratory. The Committee see no reason why in spite of the

indigenous manufacturers in the field, this basic raw material should be continued to be imported at the expense of precious foreign exchange of Rs. 55 lakhs per annum. The Committee strongly urge that the Company should tap the indigenous resources in the field and meet their requirements instead of importing them.

9.22. The Committee also note that another field of indigenous manufacture where progress has been very slow compared to that in advanced countries is in the field of integrated circuits. Integrated circuits of various types are basic building blocks in digital communications as in other associate fields like computer application, desk calculators, electronic exchanges etc. The Committee need hardly stress that a well considered crash programme of Research and Development for establishing indigenous manufacture in this promising field should be implemented so that the ITI and other concerned public undertakings can exploit this latest technology in their production programme

X

FINANCIAL MATTERS

A. Capital Structure

10.1. As on 31st March, 1969 the authorised capital of the Company was Rs. 500 lakhs (divided into 5,00,000 equity shares of Rs. 100 each) and paid-up capital was Rs. 466.82 lakhs.

The authorised capital of the Company was raised to Rs. 800 lakhs in 1969-70. As on 31-3-1971 and 31-3-72 the paid up capital was Rs. 494.61 lakhs.

The position as on 31-3-1970, 31-3-1971 and 31-3-1972 is indicated below:

(Rs. in lakhs)

	31-3-1970	31-3-1971	31-3-1972
Authorised capital	800·00	800·00	800·00
Paid up capital	466·82	494·61	494·61

The paid up capital of Rs. 494·51 lakhs has been contributed by:—

	For cash	For consideration	Total
Government of India	322·98	59·59	382·57
Government of Mysore	31·25		31·25
Automatic Telephone & Electric Co. Ltd. U.K.	10·64	6·67	17·31
International Standard Electric Corporation, USA	39·67	23·81	63·48
	404·54	90·07	494·61

NOTE: In advance of Rs. 23·83 lakhs was received from Government of India in March, 1970 and shares were allotted in 1970-71. An advance of Rs. 5·39 lakhs was received from Government of India in March, 1972 and shares were allotted in 1972-73.

10.2. In addition, Government have, from time to time granted loans to the Company against which Rs. 205.90 lakhs was outstanding on 31st March, 1972. In terms of the Agreement with ISEC in respect

of the Crossbar Project, the Company obtained $1,000,000 dollar as loans (guaranteed by the Government of India) in three instalments and an amount of Rs. 75.05 lakhs (post devaluation) was outstanding as on 31st March, 1972.

The Company also obtained supplies for the Crossbar Project on deferred credit from BTM. The amounts of 'deferred credit' obtained from BTM for the Crossbar Project were:

Main credit	333·21 lakhs
Supplementary credit	56·31 lakhs
For Tools & Components	60·00 lakhs
	449·52 lakhs

Out of this, the amount outstanding as on 31st March, 1972 was Rs. 227.73 lakhs.

The debt equity ratio (including deferred credit) as on 31st March, 1972 was 1.03 : 1.

The working results of the Company for the period from 1969-70 to 1971-72 are as follows:—

(Rs. in lakhs)

	1969-70	1970-71	1971-72
Profit before tax	309·82	380·99	503·19
Tax provision	160·00	195·00	260·00
Profit after tax	149·82	185·99	243·19
1. *Percentage of profit before tax*			
To Sales (including recoveries in respect of services)	14·5	14·7	15·0
To gross fixed assets	27·1	32·2	39·2
To capital employed	16·1	17·9	17·0
2. *Percentage of profit after tax*			
To net worth	12·7	13·5	14·2
To equity capital	32·1	37·6	49·2
To capital employed	7·8	8·8	8·2

10.3. The Committee note that as on 31st March, 1972 a sum of Rs. 289.95 lakhs was outstanding towards loans from Government of India and ISEC, New York. The Committee also note that the amount outstanding against deferred credit was Rs. 227.73 lakhs on that date.

The working results of the Company are indicative of its healthy financial position. In view of this the Committee hope that it should be possible for the Company to wipe off its outstanding loans so that payment of interest charges thereon is avoided.

B. Profitability Analysis

10.4. The table below indicates the profits of the Company for the last six years:—

(Rs. in lakhs)

	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
(*i*) Profit before tax	259·47	383·29	348·92	309·82	380·99	503·19
(*ii*) Tax provision	127·50	230·00	196·00	160·00	195·00	260·00
(*iii*) Profit after tax	131·97	153·29	152·92	149·82	185·99	243·19
(*iv*) *Percentage of Profit before tax*						
(*a*) To sales (including recoveries in respect of services)	16·2	18·9	16·4	14·5	14·7	15·01
(*b*) To gross fixed assets	27·1	36·8	31·6	27·1	32·2	39·2
(*c*) To capital employed	14·0	20·7	20·0	16·1	17·9	17·01
(*v*) *Percentage of Profit after tax*						
(*a*) To Net worth	16·3	16·5	14·4	12·7	13·5	14·2
(*b*) To Equity Capital	28·3	32·8	32·8	32·1	37·6	49·2
(*c*) To capital employed	7·1	8·3	8·8	7·8	8·8	8·2

10.5. (i) The rates adopted for billing supplies to the P. & T. Department in respect of stabilised items [product of MAX and Transmission Divisions—(a) major portion)] are based on standard costs with a 10 per cent profit margin and the same are treated as final.

Non-stabilised items (Crossbar equipment, Development items and a small portion of Transmission items) are priced on the basis of actual cost plus 10 per cent. The sales to non-P. & T. customers are governed by fixed quotations which include profit margin at certain percentages over and above the selling prices charged to the P. & T. (without any escalation).

On the basis of the above pricing policy, the cost variation on stabilised items is retained by the Company and for the non-stabilised items, adjustment is made with the P. & T. Department. The overall cost variation (including profit element) retained by the Company in respect of stabilised items (both for P. & T. and non-P. & T. customers) amounted to:—

	Both P&T and non-P&T	P&T	Non-P&T
1966-67	49·66	40·21	9·45
1967-68	134·77	114·24	20·53
1968-69	32·48	25·00	7·48
1969-70	34·00	Debits (resulting in reduction of Profits to the Company).	
1970-71	26·00		

The net amount of Cost Variation on non-stabilised items for the year 1971-72 was a debit variations of Rs. 2.75 lakhs recoverable from the P. & T. Department.

The Management have stated that the total profits earned by the Company from P. & T. and non-P. & T. customers on the products of MAX and Crossbar Divicions during the last five years were as follows:—

(Rs. in lakh

Year	*P&T	*Non-P&T
1967-68	152	82
1968-69	148	124
1969-70	143	167
1970-71	172	203
1971-72	230	212

*Figures exclusive of cost variation not allocated.

10.6. (ii) The Company prepares Manufacturing and Trading Account for all the products together. No separate manufacturing and trading accounts are prepared for its main Divisions viz. MAX, Transmission and Crossbar, with the result that the efficiency of each Division could not be examined in Audit.

10.7. The Committee were informed that only proforma manufacturing and trading accounts were being prepared separately for MAX, Transmission and Crossbar projects. Asked about the division-wise working results according to the proforma Manufacturing and Trading Accounts for the last five years and also the periodicity of preparation of the proforma accounts, the Management furnished division-wise working results (gross-profits) on the basis of the proforma manufacturing and trading accounts as given below:—

(Rs. in lakhs)

	MAX	Tran.	CB	Total
1967-68	254·88	68·66	28·60	352·14
1968-69	211·77	66·16	25·82	303·75
1969-70	184·65	47·07	36·34	268·06
1970-71	78·93	228·34	35·27	342·54

NOTE : This was purely statistical, and the profitability reflected under each division was based on project-wise classification made on certain allocation basis and certain common stores having been taken under MAX Division.

Preparation of the proforma accounts is being done yearly. the question of more frequent preparation is under consideration.

10.8. The Committee wanted to know the main reasons for the decline in profits during 1968-69 and 1969-70. It was explained that the main reasons for decline in profits during 1968-69 were due to:—

(a) The impact of arrears of additional dearness allowance and expenses related thereto based on the decision given by the Supreme Court.

(b) Tools and Guages charged off to revenue and during 1969-70: due to impact of revised wage-structure given effect from 1st January, 1969.

10.9. The Committee regret to note that on the basis of the pricing policy followed by the Company in respect of stabilised items, debits to the extent of Rs. 34 lakhs and Rs. 26 lakhs during 1969-70 and 1970-71, respectively were retained by the Company resulting

in reduction of profits. The Committee, therefore, suggest that the Management should take effective steps to secure economies in costs so that those do not over run the prices to be paid by the P. & T. Department.

10.10. The Committee also regret to note that there had been a declining trend in the profits of the Company during 1968-69 and 1969-70 although the profit showed a slight increase in 1970-71. The Committee were informed that manufacturing and trading accounts were prepared for all the products together and not separately for its main divisions-MAX, Transmission and Cross-bar, with the result that financial results of each of the divisions could not be accurately assessed. The Committee are surprised that there should have been such a lacuna in the maintenance of accounts so far. The Committee feel that in the interest of identifying the deficiencies in the working of the different divisions of the project, separate manufacturing and trading accounts should be prepared for each of the main divisions to ensure rectification of such deficiencies in time and to achieve greater efficiency and economy in operation.

10.11. The Committee note that the question of preparation of the proforma accounts more frequently (now being prepared annually) is under consideration of the Management. The Committee hope that a system of preparing the proforma accounts more frequently will be introduced soon so that the division-wise working results are made known to the Management from time to time.

C. Dividend

10.12. The following table indicates the rates of dividend paid by the Company during the last 6 years ending March, 1972:

(Rs. in lakhs)

	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
Rate of dividend	7¼%	8½%	10%	10%	12½%	12½%
Amounts paid:						
(*i*) Govt. of India	26·01	30·49	35·87	35·87	47·66	47·82
(*ii*) Govt. of Mysore	2·27	2·66	3·13	3·13	3·91	3·91
(*iii*) A.T.E.*	1·25	1·47	1·73	1·73	2·16	2·16
(*iv*) I.S.E.C.**	4·24	5·06	5·95	5·95	7·77	7·94
	33·77	39·68	46·68	46·68	61·50	61·83

NOTES : *The total payment after deduction of Indian taxes during the six years from 1966-67 to 1971-72 amounted to £ 43,130·17·5

**The total payment after deduction of Indian taxes during the six years from 1966-67 to 1971-72 amounted to $ 3,62,686·73.

	1969-70	1970-71	1971-72
Net after tax	*1·31 (£ 7222)	1·63 (£ 8698)	1·63 lakhs (£ 8676)
	**4·49 ($59232)	5·87 ($77720)	5·87 ($73752)

10.13. The amount of Dividend paid to M/s. International Standard Electric Corporation, New York alone from 1964-65 to 1971-72 was as follows:—

Year	Gross amount of Dividend declared	Tax deducted at source	Net amount paid
	Rs.	Rs.	Rs.
1964-65	80,961	42,806	38,155
1965-66	3,17,009	79,252	2,37,757
1966-67	4,23,617	1,03,786	3,19,831
1967-68	5,05,954	1,23,959	3,81,995
1968-69	5,95,240	1,45,834	4,49,406
1969-70	5,95,240	1,45,834	4,49,406
1970-71	7,77,496	1,90,486	5,87,010
1971-72	7,93,475	1,94,401	5,99,074

D. Credit Control

10.14. The following table indicates the credit allowed and the credit enjoyed by the Company as at the end of the last six years ended in March, 1972:—

(Rs. in lakhs)

	As at		
	31-3-67	31-3-68	31-3-69
A. *Credit Allowed*:			
(*i*) Sundry Debtors (net)	326·38	335·83	529·50
(*ii*) Trade advances (other than on capital account)	101·49	147·46	52·43
	427·87	483·29	581·93

B. *Credit enjoyed* :			
(*i*) Trade dues and other liabilities for expenses (other than on capital account)	66·02	92·92	81·36
(*ii*) Cash credit	457·55	258·12	57·96
(*iii*) Refunds due to P&T	328·23	456·35	384·21
	851·80	807·39	523·53
Excess of credit allowed over credit enjoyed (A—B)	(—)423·93	(—)324·10	(+)58·40

	31-3-70	31-3-71	31-3-72
A. *Credit allowed*:			
(*i*) Sundry Debtors (net)	531·74	489·69	772·42
(*ii*) Trade Advance(other than on Capital account)	52·13	74·42	191·54
	583·87	564·11	963·96
B. *Credit enjoyed*:			
(*i*) Trade dues	105·39	127·31	235·18
(*ii*) Advance from customers	74·45	127·84	107·31
(*iii*) Cost credit	56·43	91·60	498·57
(*iv*) Refunds due to P&T	64·94	50·71	..
	301·21	397·46	841·06
Excess of credit allowed over credit enjoyed (A—B)	282·66	166·65	122·90

It will be seen that the credit enjoyed by the Company was more than the credit allowed as on 31st March, 1968. The position has, however, been reversed in subsequent years. But for the retention of "refunds due to P. & T." the credit allowed by the Company would have been more than credit enjoyed as on 31st March, 1968 and 31st March, 1969.

10.15. The following table indicates the volume of book debts and sales for the last six years:

(Rs. in Lakhs)

As on	Total book debts		Turnover	Percentage debits of turnover
	Considered good	Considered doubtful		
31-3-1967	326·52	0·14	1,601·53	20·4
31-3-1968	336·22	0·39	2,033·23	16·6
31-3-1969	529·90	0·40	2,124·74	24·9
31-3-1970	529·90	1·84	2,137·39	24·8
31-3-1971	489·69	1·36	2,593·59	18·9
31-3-1972	772·42	3·38	3,350·50	23·00

The sundry debtors represented about 2.8 months' turnover in 1971-72 as against about 2.27 months' in 1970-71, about 3 months' in 1969-70, about 3 months' in 1968-69, about 2 months' in 1967-68 and about 2.4 months' in 1966-67.

The details of the debts outstanding for more than one year as on 31st March, 1969 are indicated below:—

(Rs. in lakhs)

	Government Departments	Government Companies	Private Customers
Debts outstanding for more than one year but less than 2 years	20·00	3·08	4·66
Debts outstanding for more than 2 years but less than 3 years	8·00	0·78	0·24
Debts outstanding for 3 years and above	9·06	1·96	0·07

The details of debts outstanding for more than one year as on 31st March, 1971 are given below:—

(Rs. in lakks)

	Government Departments	Government Companies	Private Customers	Total
Debts outstanding for more than one year but less than 2 years	26·33	3·64	5·22	35·19
Debts outstanding for more than 2 years but less than 3 years	7·83	2·31	0·05	10·19
Debts outstanding for 3 years and above	8.40		1.86	
	42·56	8·99	7.13	57·68

10.16. The Committee pointed out that against the turnover of Rs. 2594 lakhs on 31st March, 1971 the total book debts of the Company amounted to Rs. 489.69 lakhs (18.9 per cent) and asked the reasons for the delay in realisation of debts due to ITI, and also whether those debts were realisable. The Management stated in this respect as follows:—

> "Out of Rs. 489.69 lakhs debt as on 31st March, 1971 Rs. 450.2 lakhs has since been realised by 31st March, 1972. The bulk of the outstandings relate to supplies made to Railways Rs. 14.96 lakhs, Overseas customers Rs. 6.19 lakhs. The outstandings with the Railways are being pursued vigorously. The delay in realisations from Overseas

customers is due to the fact that about Rs. 5.28 lakhs is not yet due for payment under the terms of the contract. The latest position of these outstandings as on 31st March, 1972 is Rs. 17.19 lakhs. Details of private customers are Overseas customers Rs. 5.28 lakhs referred to above and another Overseas customer Rs. 0.65 lakhs and an Indian customer Rs. 0.26 lakhs. These outstandings are expected to be realised and are not to be treated as bad debts for being written off."

10.17. The Committee enquired the reasons for non-realisation of debts outstanding for more than one year and asked whether there were any disputed cases. The Management stated in reply that the bulk of the sales for which payments were outstanding related to supplies made to Government Departments. The delay in realisation was mainly due to the need for observance of several formalities at the customers' end such as provisions in sanction budgets, documentation of receipts, issue of Government sanctions for variations in prices etc. It was also stated that there were no disputed cases.

10.18. The Committee note that against the turnover of Rs. 2594.58 lakhs the total book debts of the Company was Rs. 489.69 lakhs (18.9 per cent) and out of the latter, Rs. 75.68 lakhs relate to debts outstanding for more than one year. The Committee regret to note that the bulk of the sales for which payments were outstanding relate to supplies made to Government. The Committee expect that payments outstanding with Government Departments should have been followed up at the highest level and vigorous steps should be taken for their realisation. The Committee suggest that to have a deterrent effect on avoidable delays the feasibility of charging interest on delayed payments may be examined. The Committee also suggest that the procedure for billing and settlement of formalities should be strictly followed to ensure that in no circumstances payments are allowed to be outstanding for more than 2 months.

XI

SECOND TRANSMISSION FACTORY AT NAINI, ALLAHABAD

11.1. Besides the factory at Bangalore, the ITI set up without any outside collaboration but with the know-how developed and available in Bangalore, a second factory at Naini, Allahabad (U.P.) for the manufacture of long distance transmission equipment (Electronics) for 12, 8 and 3 channel systems at a capital cost of Rs. 2.5 crores. The factory would also produce equipments for defence at a later stage. The Detailed Project Report of this project was sanctioned by Government in October, 1969. The estimated capital cost of the unit was Rs. 248.60 lakhs with a foreign exchange component of Rs. 151.38 lakhs. A plot of land measuring 175 acres on the Mirza Road at Naini was allotted by the State Government of U.P. for this factory.

11.2. According to the provision in the project report, the ultimate annual capacity is for production of 11 types of equipment for approximate sale value of Rs. 6.5 crores. The factory is scheduled to reach this capacity in 1973-74.

The project was to be completed in 3 phases as follows:

1st phase	April, 1971
2nd phase	April, 1972
3rd phase	April, 1973

11.3. The estimates of the project originally approved by Government in October, 1969 are being revised. The revised estimates are for Rs. 340.53 lakhs against original sanctioned estimates of Rs. 248.60 lakhs and have thus exceeded the original estimates by 37 per cent. It is stated that the revised estimates after approval by the Board would be submitted to Government before the end of the year. It is also stated that the revised estimates may not affect the economics of the project appreciably.

11.4. During evidence the Secretary of the Ministry stated as follows:—

"In Naini, there are actually two units-transmission factory

and the instrument factory. As far as the transmission factory is concerned, there is no great delay. In the industrial licence, there is a serious delay."

"In getting industrial licence, the ITI submitted application to the Ministry for industrial licence in May, 1970 and decided to refer to the Department of Electronics and we finally got the licence in April, 1971."

11.5. In a written reply, after evidence it was stated that the contract for civil works was awarded in February, 1970. The work was started in June, 1970. The building has since been completed and the plant and machinery were under installation. However, production was started in October, 1971 in the store-sheds and production of 12 Channel Carriers undertaken by assembling the components received from Bangalore factory by the operators, recruited at Naini. The production in 1971-72 was Rs. 1.66 crores consisting of 550-12 Channel Groups.

The preliminary production planning, ordering and receipt of plant and machinery, recruitment and training of officers and staff continued during 1971-72.

11.6. While the Committee are happy to note that the Second Factory for manufacture of Long Distance Transmission equipment was started in Naini without any outside collaboration, they deprecate the delay of 2 years, in even applying for an industrial licence for the project sanctioned in 1968. The Committee find that Government took another one year for granting the licence. The Committee are constrained to observe that such delays defeat the very object of starting a second transmission factory to augment their production.

The Committee note that the estimates originally sanctioned in 1968 for Rs. 248.60 lakhs have since been revised and the revised estimates for Rs. 340.53 lakhs are to be put up to Government for approval. The Committee expect that Government would critically go into the reasons for the excesses over the original estimates and take prior approval of Parliament in case of substantial revision. The Committee would like in this connection to draw attention of Government/ITI to para 5.18 of the Sixty-sixth Report of the Committee on Public Undertakings (Fourth Lok Sabha).

XII

CONCLUSION

12.1. The Committee have found that no serious effort had been made to determining precisely the capacity of the MAX and Transmission Divisions from year to year. The targets and actual production had been indicated in the Tranamission Division in terms of value alone. They have also found that there was no clear-cut yardstick available to the Management for evaluating the efficiency in production performance. The Committee have, therefore, recommended that the company should make an accurate assessment and fix for evaluating the performance.

12.2. The Committee have found that, on the one hand, the Management had stated that the production schedules were prepared taking into account the availability of machines, equipments and also the forecast of the orders, on the other hand the Management had attributed the shortfall in production to the fixation of targets deliberately at a higher level as a measure of incentive for higher production.

12.3. The Committee have also found that sales performance of the Company revealed that the Company had failed to achieve the budgeted sales from year to year mainly on account of non-achievement of quantitative targets. In some years the original targets fixed for some items by the Company had exceeded even the capacity stated to be available. Even the revised targets were found to be in excess of the available capacity in some cases and the actual production fell far short of targets as well as available capacity. The Committee have, therefore, concluded that the targets were not being fixed on rational and scientific basis. The Committee have observed that fixation of targets at a higher level earlier and slashing down later is not a healthy practice in production planning as it gives a misleading picture of the performance of the undertaking. The Committee have stressed that all out efforts should be made to fix the targets on a more rational and scientific basis taking into consideration all the factors concerned with production and the Company should take adequate steps to ensure that the targets are actually achieved.

12.4. The Committee have found that the actual production generally fell short of the targets both in the MAX and Transmission

Divisions from 1966-67 to 1970-71. While the Company had already taken measures toward off delays in obtaining import licences and to see that supply of indigenous components were received well in time, the labour efficiency had declined from 105.9 per cent in 1965-66 to less than 100 per cent in 1971-72, although the amount of labour incentives both direct and indirect showed an upward trend from 1965-66 to 1967-68 and again in 1971-72. Out of 31 shops, now functioning 5 shops had not attained 100 per cent efficiency at any stage while 7 shops had fallen below 100 per cent efficiency from 1969-70. The Committee have observed that while the expenditure on labour incentives has increased, the efficiency has actually come down thus causing shortfall in production. The Committee have noted that according to the Management, certain modifications would be called for in the incentive Scheme already in vogue. The Committee have recommended that the Management should finalise the modified scheme without any further delay ensuring that the modified scheme does not have adverse effect. The Committee have also suggested that the Management should consider relating labour incentives to productivity so as to improve the efficiency and achieve better production performance. The Committee have also suggested that the reasons for decline in efficiency in the 7 shops should be gone into and suitable remedial measures taken to improve their efficiency.

12.5. The Committee have found that the catalogue supplied at the time of entering into agreement with BTM in May, 1964 for special machines, tools and test equipment and equipment units did not contain many items ordered by the Company with the result that the Company had to obtain a supplementary catalogue in December, 1966. Even the original and supplementary catalogues together were not found exhaustive and consequently, for items remaining uncovered, pricing details were obtained as and when necessary. The Committee were at a loss to understand as to why the specifications required by P&T could not have been settled well in advance of concluding the agreement with the BTM.

The Committee have regretted that the matter regarding escalation terms applicable to the items covered by the supplementary catalogue and later quotations was still pending settlement and only provisional payments had been made for the supplies received. The Committee have found that the escalation terms prescribed in the supplementary catalogues were also different from the original. The Committee have failed to understand as to why the terms and conditions of purchase could not be settled in advance and why orders against different catalogues and quotations were not placed

saparately and how payments therefor were regulated especially when the escalation terms for supplementary catalogues and later quotations were different from the original.

The Committee have urged that supplies against the different catalogues and quotations should be segregated at least now and terms of escalation and payments therefore finally settled without delay. The Committee have also stressed that the terms and conditions of purchases should be settled well in advance of placing the orders so that the Management may know the exact contractual liability and financial implications to avoid disputes at a later stage.

12.6. The Committee have found that the agreement with the BTM which was to have expired on the 21st May, 1971 was extended first from May, 1971 to May, 1972 and again from May, 1972 to May, 1973 in spite of the problems of production as well as in the maintenance of cross-bar exchanges supplied by the collaborators. The extension was for the removal of certain deficiencies in the equipment particularly in design most of which relate to defective spark quench corrosion of certain parts due to climate conditions, circuit defects and common control equipment, etc. While the Committee note that the cross-bar system of telecommunications is modern in design, concept and utilisation, they are constrained to point out that the type of cross-bar technology for manufacture in India has been found in actual practice not to be fully suited to our conditions. The Committee have failed to understand how such a serious shortcoming crept in when a technical team of senior officials had gone round different countries to examine and recommend the most suitable type of cross-bar equipment for manufacture in the country and why such an essential pre-requisite as periodicity of calls was not identified in detail and the special feature of Indian conditions kept in view while selecting the collaboration for the cross-bar equipment. At the time of preparing the Detailed Project Report, these features should have been gone into in detail so that the type of cross-bar exchange and the equipment which was manufactured really suited the Indian conditions. The Committee have desired that the reasons for not keeping in view the peculiar conditions of Indian telephone operation while deciding foreign collaboration and later not rectifying this serious omission even at the time of preparing the detailed project report should be gone into and responsibility fixed.

12.7. The Committee have desired that the cross-bar equipment already installed should be systematically rectified and the Committee informed whether it has, in fact, now been able to achieve

the rated capacity in actual operations. The Committee would also like ITI to confirm that the cross-bar equipment now being manufactured at least conforms to the Indian requirements and is free from the defects which had earlier depressed its operating capacity. efficiency.

12.8. The Committee have suggested that Government should analyse in detail the shortcomings and handicaps which had been experienced in selecting this foreign collaboration and in subsequent operation so as to learn the requisite lessons and advise all Public Undertakings how to avoid such pitfalls in future.

12.9. The Committee have observed that the Company had prepared a revised estimate only after the cross-bar project had been fully set up in 1968 and submitted it to the Board of Directors in June, 1970. The Board approved and submitted to Government the revised estimate after more than one year and the revised estimates were sanctioned by Government in 1972 after another 10 months.

The Committee have expressed their regret on the laxity of financial control both on the part of the Management and Government in having allowed the Company to continue to incur expenditure on the project without a Revised Estimate being prepared and approved by competent authority. The Committee have stressed that the Revised Estimate should have been prepared and got sanctioned when there was the slightest likelihood of the estimates being exceeded and not after the project was fully set up.

The Committee have recommended that the procedural delays and various lapses which have caused the delay in the preparation and sanction of the revised estimates should be investigated and responsibility therefor fixed.

12.10. The Committee have found that though the project estimate envisaged the manufacture of local exchanges, trunk exchange, Rural exchange, PABX's concentrator line units for use with step by step equipment and pentaconta equipment, no time schedule was laid down either in the agreement which was to run till May, 1971 or in the Project Report or by the Company for taking up the production of these items individually.

The Committee have observed that had a time schedule of manufacture of the different exchanges been laid down in the agreements and designs for all the types and prototypes of all kinds of exchanges been done according to the schedule within the currency of the agreement, any defects/deficiencies in those areas would have come to their knowledge in time, before the extension of the

agreement with the collaborators was decided upon. The Committee have urged that even now it is not too late for the Government to take steps to complete the trial of prototype Rural exchanges to assess their performance within the extended period of the agreement.

12.11. The Committee have expressed their regret that the actual performance of the plant in terms of output has been much lower than that programmed in the agreement. The shortfall ranges from 67 per cent to 100 per cent at the end of January, 1968. Though for some of the delays pertaining to supply of know-how, semi-equipped assemblies etc., the BTM was also responsible, the Committee have expressed regret—to find the absence of any provision in the agreement with the BTM for taking action against them for such delays or for claiming the damages from them. The Committee have viewed with concern that these delays have ultimately affected the training and the production programmes. The Committee have suggested that the reasons for delays should be investigated.

12.12. The Committee have taken a serious view of the lack of advance planning and the preparation of specifications by P&T/ITI before entering into agreement so that the specifications could be made available to the BTM for completing the contractual obligations in time. The Committee have observed that the Company should have taken advantage of modern management techniques like "PERT" to review the programme, identify the delays and take timely remedial measures at different stages to achieve the targeted programme.

12.13. The Committee have pointed out that at a time when the country is seriously short of telephone equipment and the waiting list runs into several years in metropolitan towns, it is unfortunate that we should not have been able to manufacture equipment of the requisite quality at ITI upto the installed capacity. They have desired that the matter should be looked into at the highest level in order to take concerted measures to overcome these deficiencies and reach production as per the installed capacity.

12.14. The Committee have found that as compared to the Fourth Plan target, the ITI would fall short by as much as 2.34 lakh lines including 70,000 lines of rural exchange.

12.15. The Committee have found that though 60,000 lines of P&T were equated by the Management to one lakh lines of Jorebagh pattern originally envisaged in the agreement with the collaborators

the optimum production could not be achieved by the Company even in 1970-71 due to certain deficiencies like short supply of machines, shortfall in foreign exchange and poor quality of indigenous supply of raw materials. The Committee have pointed out that the short supply of machinery came to the notice of the Management only after two years of installation and running and when the factory could not achieve the quantum of production specified in the project report.

The Committee have also found that even now information pertaining to know-how and standard time data has not been received by ITI from BTM for a large number of items, components and assembly operations.

12.16. The Committee have found to their surprise that the agreement with BTM did not even include a penalty clause providing for claim for liquidated damages for any failure to supply the machines in a specific time. The Committee have felt unhappy at the way in which things connected with BTM agreement had been handled. They have, therefore, recommended that the whole matter regarding the agreement with the BTM should be thoroughly investigated and the responsibility for not only entering into such a defective agreement but also the failure to take follow up action at different stages during the implementation of the agreement be fixed.

12.17. The Committee have recommended that Government should learn the lesson from this experience and ensure that agreements with collaborators include suitable clauses providing for levy of penalties and recovery of liquidated damages in cases of delays or failure to fulfil the contractual obligations either in full or in part. The Committee have also suggested that Government/ BPE should issue suitable guidelines in this regard to all Public Undertakings.

12.18. The Committee have observed that no revised parameters according to the P&T pattern were fixed corresponding to those included in the agreement for judging the actual performance with the result that no useful comparison could be possible with the agreement and the terms thereof enforced. The Committee have viewed with concern the failure of the Management in not having intimated the revised production pattern/programmes to BTM in time and included them in a supplementary agreement to the main contract so that the terms of the contract could have been enforced and responsibility for shortages at several stages pinpointed.

12.19. The Committee have hoped that the suggestions made by a team of the World Bank Consultants for improving the production efficiency in the factory, procurement system, stock control of materials, closer coordination between P&T and ITI, creation of buffer stocks for strategic materials etc. would be implemented and the production of the Company improved and efficiency enhanced.

12.20. The Committee have failed to understand as to why only when the Company was faced with critical situation of large number of breakages in tools during production they thought of ordering a duplicate set of tools and establishing full tool-room facilities. In the meantime the Company had to place orders for import of 4 tools from the very same collaborators *i.e.* BTM for a C.I.F. value of Rs. 1.25 lakhs and another set of 13 tools from BTM and other companies. The Committee have viewed with concern the lack of proper planning in the provision of tools, and tool-room facilities which has caused loss of production.

The Committee have also taken a serious view of the failure on the part of the Management in not having assessed the demands of stronger type of equipment in time before a decision about tool-room facilities for cross-bar production was taken. The Committee have expressed hope that with the establishment of a full-fledged tool room, ITI would be able to overcome the difficulty of lack of tools required for the manufacture of cross-bar type of equipment in future.

12.21. The Committee have emphasised the need for keeping a complete record of receipt of all types of know-how including production and engineering information *vis-a-vis* the scheduled dates to enable the Management and the Government to keep a close watch so that it can be ensured that the provisions of the agreement and the project are implemented as per schedule.

12.22. The Committee have found that against the staff requirement of 15 officers and 1235 operative and indirect staff on achieving 100 per cent efficiency envisaged in the Project Report for production of 100,000 lines, the Company has on 31-3-1972 a strength of 31 officers and 1401 operative and indirect staff whereas the production was only of the order of 80,000 lines. The Committee have observed that the staff strength is much in excess of the requirements especially when the production has not reached 100 per cent level. The Committee have shown their concern that the Company could not attain the expected level of efficiency in the Assembly and Manufacturing Divisions of the Crossbar Unit whereas the percentage of efficiency is only of the order of 60.87 and 50.72 in 1971-72. The

Committee have, therefore, recommended that Management/Government should go into the reasons responsible for low achievement of the required level of efficiency and should take suitable remedial measures to improve the efficiency and attain maximum production. The Committee have also recommended that employment of staff should be strictly regulated to the needs of production and production pattern to avoid over-staffing at any stage.

12.23. The Committee have found that even when the requisite level of production or even a substantial portion thereof has not been reached, the officers and staff employed usually is far in excess of what would be even required for achieving 100 per cent level of production. They have observed that the laxity with which the appointments of staff are made in the beginning militates against disciplined hard work and thereby vitiates the atmosphere in Public Undertakings for achieving optimum production results. The Committee have recommended that Government at the highest level should analyse in detail the reasons for recurrence of such lapses and lay down guidelines to obviate their recurrence. The Committee have also suggested that Government should hold the Chief Executives squarely responsible for any such lapse in future so that production discipline is maintained all along the line.

12.24. The Committee have found that because of the pricing formula adopted by the Company they have recovered from the P&T Rs. 312.03 lakhs more than what it should for the supplies made to it during the period from 1965-66 to 1968-69. The average cost per line has been worked out as Rs. 1603 during 1969-70 and Rs. 2327 during 1970-71 which is again very much higher than the estimated cost as evaluated. The Committee have observed that if in spite of low efficiency and low utilisation of capacity, the company is making profits, it is mainly because of the fixation of selling prices at much higher rates than what they should be. Under the procedure now followed by the Company and recovery of additional costs from its main consumer—P&T and other the figures of profit shown by the Company are not true index of its efficiency. The Committee have further observed that while this pricing procedure has enabled the Company to present a better financial picture, it has really proved to be an extra burden on the exchequer.

The Committee have, therefore, stressed that merely judging from these higher profits the Company should not develop a sense of complacency and take undue advantage of their monopolistic position. The Committee have recommended that aim of the company should

be to manufacture their products at most economic costs by increasing their labour efficiency and maximising production and thereby supply the vital equipments.

12.25. The Committee have found that the percentage of total hours lost to total booked hours was 2.6 per cent in 1968-69, 2.15 per cent in 1969-70 which decreased to 1.90 per cent in 1970-71 and to 1.12 per cent in 1971-72. The Committee have also found that the loss has been mostly on account of lack of raw materials. The Committee have expressed their surprise that while on the one hand ITI are carrying excessive inventories, on the other, labour remains idle for want of materials.

The Committee have observed that ITI being the major industry meeting the increasing demands of telephones and transmission equipments in the country should not be made to suffer on account of shortage of basic items of raw materials like steel sections and steel sheets. The Committee have, therefore, recommended that the Government should make a correct assessment of the requirements of ITI for steel sections and steel sheets and treat them on high priority basis so that the Company has not to suffer on account of shortage or lack of essential raw materials and consequently the labour remaining idle. ....

12.26. The Committee have suggested that the Management should review the matter in the light of the study made by the Administrative Staff College, Hyderabad and the suggestions made by the study team of the International Bank for Reconstruction and Development Washington and evolve a suitable system of store purchase and control so that production in ITI does not suffer at any time for lack of materials.

12.27. The Committee have failed to understand as to why prior to July, 1970, out of 3046 machines spread over 35 shops, machine utilisation cards were maintained only in respect of 126 machines in the Auto shop of MAX Division. The Committee have found that since July 1970, records of machine utilisation are being kept in respect of machines which cost Rs. 20,000 in value and more. The Committee have suggested that the record of machine utilisation should be scrutinised in detail in order to identify the reasons for less than full utilisation and take effective measures like arranging timely supply of spares and materials, servicing of machines and maintenance and standardisation of product mix to get the best results.

12.28. As regards the machines for which machine utilisation cards are not being kept at present, the Committee have suggested

that an overall review should be made from time time—say once a year—to make sure that these machines are really needed and to derive necessary guidelines to see that investment is not made in machines which would not be put to use.

12.29. The Committee have recommended that the undertaking should analyse the matter regarding absenteeism in detail and take effective action to see that the percentage of absenteeism is reduced. The Committee have urged that effective action should be taken to see that production and utilisation of machines do not suffer on this account.

12.30. The Committee have found that the overall actual sales fell short of both the budgeted and revised budgeted sales during 1966-67 to 168-69 but the situation, however, improved from 1969-70 to 1971-72. The Committee have also found that the Company has not been fulfilling its targets for sales to P&T during the years 1966-67 to 1970-71 except for a small excess over the revised target in 1968-69. The Committee have urged that the Undertaking should leave no stone unturned to meet the requirements of the P&T. The Committee have found that the estimated demand for telephone instruments during the 5th Plan period is 24 lakh instruments and the backlog during the 4th Plan is estimated at 5 lakhs instruments. The P&T have planned for installation of microwave equipment over 15,000 route kms., coaxial system on 10,000 route Kms. and long distance transmission equipment over a number of open wirelines. The Committee have recommended that the Company should in consultation with the P&T fix realistic targets of sales taking into account the demands of P&T and ensure that such targets are actually achieved and the demands of public met to the maximum extent by improving efficiency and stepping up production.

12.31. The Committee have found that there has been shortfall in the exports by the Company as compared to the targets fixed during the years 1967-68 to 1969-70. The Committee have also found that the value of the products exported by the Company has come down from Rs. 89.71 lakhs in 1969-70 to Rs. 32.08 lakhs in 1971-72. The Committee have observed that the targets for exports have not been fixed on a realistic basis taking into account all the relevant factors like declining demand of its products outside, production possibilities etc.

The Committee have, therefore, recommended that before fixing the targets for exports, a proper demand survey of the export market should be undertaken and targets fixed consistent with the home demands for such products.

12.32. The Committee have also recommended that Government should provide ITI special facilities for procurement of the requisite type of raw materials required for export orders to enable the Company to fulfil its commitments of exports.

12.33. The Committee have found that the total value of P&T orders outstanding as on 31-3-1969 was Rs. 18.61 crores and year-wise break-up of these orders was not maintained till October, 1969 for one reason or other and control over execution of the orders was being exercised only through periodical meetings between P&T and ITI. The Committee have also found that the total value of orders outstanding as at the end of 31st March, 1972 was over Rs. 50 crores out of which the orders of P&T alone amounted to Rs. 35.58 cores and the value of outstanding orders has been increasing from 1969-70.

The Committee felt unhappy to find that though a computer was installed by the Company in the year 1966, they did not assign priority to get the data regarding the orders received and those outstanding computerised. The Committee have failed to understand how in the absence of vital information the management is able to exercise any effective control over the execution of orders. The Committee have recommended that the position should be carefully investigated and responsibility for the failure to maintain proper record of the orders received and executed before October, 1969 should be fixed. The Committee also recommended that the ITI should exercise necessary control to see that the orders are accompanied by all the required specifications and other details in order to avoid delay later in execution.

The Committee have stressed that ITI should endeavour to accelerate the pace of production by improving its efficiency and proper advance planning for procurement of materials and thus reduce the waiting time for the orders to the minimum. . .

The Committee have expressed their hope that with the coming up of the new units of the ITI and with improved efficiency and forward planning for materials, it should not be difficult for the ITI to clear up the backlog of the orders and ensure timely execution of new orders.

12.34. The Committee have found that because the production in the crossbar Division is not yet stabilised, technical estimates are obtained for evaluation of the work in progress in respect of intermediate production in certain specified departments. The

Committee have felt that working out standard costs based on technical estimates only for intermediate production in certain specified departments will not ensure a scientific and realistic costing for evaluating of work in progress. The Committee have therefore, recommended that the correct standard costing practice should be adopted and the standard costs for the production of crossbar division fixed on a scientific basis. The Committee have also recommended that these standard costs should be reviewed periodically and variation between standard costs and actuals analysed to take remedial measures to reduce the cost of production and effect adjustments as necessary.

12.35. The Committee have found that the standard costs are fixed with refrenece to layouts|drawings for materials and engineering estimates for labour. The Committee have also found that the number of layouts has increased from 59,000 in 1969-70 to 77000 in 1971-72. The Committee have observed that in view of the large number of layouts and the frequent changes in productmix designs especially in Transmision Division, there should be a systematic time-controlled plan of review of layouts with a view to fixing the standard costs as accurately as possible and improve upon the performance.

12.36. The Committee have found that Company has been following a standard costing system based on labour efficiency of 100 per cent in MAX and 50 to 80 per cent in Transmission.

The Committee have also found that actual percentage of labour efficiency in shops was in excess of the percentage adopted for standard costs in 6 shops of MAX and 2 of Transmission and less than the adopted percentage in 3 shops of MAX. The Committee have suggested that the undertaking should analyse in detail the factors inhibiting labour efficiency and take remedial measures to achieve 100 per cent efficiency.

12.37. The Committee have found that the costing system does fixation of prices for various products on a scientific basis. The Committee have suggested that the data available should be utilised by the Company in working out the product-wise actual cost so as to provide a suitable basis for comparison with the standard cost. Such product-wise analysis of actual cost would be helpful in the fixation of prices for various products on a scientific basis. The

Committee have urged that the compilation of product-wise actual cost be undertaken early.

The Committee have also recommended that the standard costs should be reviewed and re-fixed taking into account the present trends in labour efficiency and material costs so that variations in costs may be kept to minimum.

12.38. The Committee have found in the process of compilation of cost, actual costs are not compiled product-wise but are compiled in respect of shop orders only. The Committee have further found that the so called actual costs of shop orders cannot be considered as "actual" since these are based on standard rates for labour materials and overheads and variation beyond 10 per cent in cost of materials are only taken into account. When shop orders on completion are transferred at stores, these are again at standard rates and variations between these costs and the value "actually"determined at the shop level are taken to cost variation adjustment account. The Committee have observed that the present system does not provide an effective method of comparison of actuals with standard costs, since break-up of cost of final product into labour, materials and overheads is not available for cost control and the standard rates of materials are not revised with reference to variation in cost of materials. Besides, the actual costs compiled are themselves defective and do not represent the actual costs in the true sense of term. Since the practice adopted does not provide for an effective control on the cost of the products and affects the profitability of undertaking, the Committee have recommended that the undertaking should put the costing system on sound footing and consider the introduction of a system of departmental budgeting and expeditious closing of shop orders so that break-up of actual costs at each stage of production including the final product stage is available for comparison with the break-up of pre-determined standard costs. The Committee have also recommended that the company should take steps to review the standard rates by a careful analysis of the figures in the cost variation adjustment accounts, and revise the standard rates suitably. They have further reommeneded that the undertaking should study the costing system adopted by ATE of U.K./ BTM who are colaborators for the manufacture of the telecommunication equipments, with a view to evolve a better and more effective system of costing and management control.

12.39. The Committee, have found that under the present system

of costing, cost variances only beyond 10 per cent in respect of orders valued over 50,000, were analysed, and even such an analysis indicated a number of defects in the system. The Committee have found that the master shop order constituted the major portion of the over all cost variance respect of compleed orders and these were not susceptible of analysis under the present system.

The Committee have also found that during 1966-67 to 1971-72 there was over all under recovery of over heads to the extent of 331.73 lakhs. Under recovery on account of volume variance Rs.372.21 lakhs was offset by net saving of Rs. 40.48 lakhs on account of expenditure variance. The Committee have found that under recovery of overheads under volume variance was also due to under utilisation of capacity and also on account of non-employment of direct labour, consequent and dirversion of production work to ancillary industries and framing out of orders. The Committee have expressed their surprise that in spite of diversion to ancillary units there is shortfall in production and the utilisation capacity is only of the orders of 60 to 70 per cent resulting in under-recovery. The Committee have urged that the reasons for under-utilisation should be investigated by a team of experts so that the production performance is improved by carefully deploying the labour and putting the machines to optimum utilisation.

The Committee have also urged that the system of costing and procedure for cost analysis should be streamlined and put on a scientific footing so that the variation in cost could be analysed at each stage in comprehensive manner on all shop orders and reasons for variation pinpointed and remedial measures taken to overcome the defects. The Committee have hoped that the revised procedure of planning and scheduling being introduced, will enable closing of shop orders in shorter intervals so that there is more effective cost control at the shop levels.

12.40. The Committee have found that product-wise actual costs are not compiled by the Company to enable comparision of selling prices with such actual costs. The Committee have also found that the range of variation in the selling prices of products of both MAX and Trasmission Divisions has been wide. The range of variation in the standard costs also has been equally so. There has been increase in selling prices and standard cost of several products of MAX and Transmission Divisions including the Telephones during 1969-70 to 1971-72. The Committee have further found that in the absence of break-up of standard costs into its constituents *viz.* labour, materials nad overheads the Managment is not in a position to indicate

specific reasons for variations in standard costs from year to year. The Committee have stressed that it is imperative to streamline the procedure of costing and that the company should compile product-wise actual costs and also analyse the reason for the variations between the standard costs and the actuals and take suitable remedial action.

12.41. The Committee have found that there was a large number of pending shop orders. The age of these orders ranged from 1 to 6 years although all shop orders are required to be closed within a period of six months. The Committee have also found that the value of work-in-progress is arrived at on the basis of cost cards for pending shop order and does not reflect the value of the works based on the physical stage of completion. The Management informed the Board of Directors in August, 1971 that the revised production planning|shop schedule scheme introduced in November, 1969 to achieve a better and more effective cost control did not yield the anticipated results mainly because of deficiencies in proper documentation at the shop level and difficulties in linking the debits|credits to the individual schedules. The Committee have urge that the company should take expeditious action to identify the deficiencies and defects and the reasons therefor and take immediate remedial action to remove them so that a correct picture of the value of work in progress is available. The Committee have suggested that the Company should adopt more business-like practices to ensure timely-execution of shop orders and strict adherence to delivery schedules.

12.42. The Committee have expressed their surprise that since inception no proper and fixed pricing policy has been evolved by the Government with regard to the sale of both the stabilised and non-stabilised items for production. The *ad hoc* arrangements had to be revised on several occasions as they were found not working to the satisfaction of either the ITI or the P&T. The pricing policy has been changed with effect from April, 1972, and new agreement has been entered into between P&T and ITI. The Committee have found that even the present agreement provides for adjustments of the payments|recoveries for cost variations. In the new agreement it has been presumed that the Company would run at 90 per cent efficiency. The Committee have observed that the profitability of the Company is likely to be affected by all variable factors presumed in the new agreement.

Since the ITI have the benefit of latest machinery and equipment in their production units and advantage of a large captive market, the Committee have stressed that the undertaking should improve

its efficiency, increase out put and effect economics so as to bring down the cost of manufacture of their products to even less than the international prices so that the products of the ITI can benefit even the Common man.

12.43. The Committee have found that in the case of non-stabilised items the present policy is to refund credit variation before expiry of the following financial year after determining the amount of cost variations on finalisation of the accounts for the earlier year.

The ITI are proposing to request P&T to waive the claim for interest on cost variations. The Committee have desired that they should be informed of the development. The Committee have, however, stressed the need for settling the credit variations soon after the close of the financial year so that payment of interest charges to P&T can be avoided.

12.44. The Committee have found that the inventory in ITI is very high, compared to the norm of 6 months' requirements recommended by the Committee on Public Undertakings in their 40th Report (3rd Lok Sabha) on Material Management. The Committee have also found that the inventory of raw materials has risen from Rs. 1161.37 lakhs in 1970-71 to Rs. 1575.60 lakhs in 1971-72 and the increase has been mainly due to purchased items.

12.45. The system of material management in the Company had been got examined by the Administrative Staff College, Hyderabad who had made certain recommendations. The Committee have observed that the Company should have by this time implemented the recommendations contained in the report of the Administrative Staff College and taken appropriate action to streamline the purchase procedure which at present is stated to be causing considerable problems and ensure that the level of inventory is brought down to the norms considered reasonable consistent with the exigency of production so as to avoid unnecessary accumulation of stores resulting in locking up of capital.

12.46. The Committee have also recommended that ITI should take advantage of the computer for working out an effective system of inventory control.

12.47. The Committee have found that the bulk of dormant and slow-moving stores was accounted for by the raw materials, MAX and Transmission Stores which have shown an increase of Rs. 43 lakh from 1967-68 to 1968-69 and again Rs. 46 lakhs from 1970-71 to

1971-72. The Committee have also found that against the accumulation of Dormant items from the inception of the factory, stores of the value of Rs. 37.42 lakhs had to be written off. The Committee have felt concerned to find that while on the one hand, shortfall in production are attributed to the shortage of raw-materials and Transmission Stores, and machinery and labour remain idle on this account, on the others there are accumulation of dormant and slow-moving equipment which are ultimately written off. The Committee have recommended that purchase of materials especially Transmissions, Stores and Transmission Enquipments which are suspectible to frequent changes, in design, methods, processes etc. should be regulated after a careful assessment of the requirements to avoid accumulation of stores over long periods and ultimately becoming obsolete or written off. The Committee have expressed hope that a careful analysis of the dormant and slow-moving stores will be made so as to segregate items which are really surplus to requirements and action taken to dispose them of in the best interest of the Public Undertakings.

12.48. The Committee have found that the Company has achieved import substitution of raw materials and components to the extent of Rs. 348.58 lakhs from 1966-67 to 1971-72 and that there is still scope for improvement.

The Committee have found that the Company is still importing 296 lakhs worth of materials annually and that one of the more important materials imported in large quantities by ITI is the ferrite core, the annual requirement of which is of the order of 10 tons valued approximately Rs. 55 lakhs. The Committee have recommended that National Research Development Corporation should ensure that the parties, who are granted licences for commercial exploitation of ferrites through the CSIR processes, actually adhere to the stipulated schedules for commercial production and that the production targets are adhered to by them in actual practice.

12.49. The Committee have found that 5 firms are engaged in the manufacture of ferrites based on the know-how developed by the National Physical Laboratory. The Committee have failed to understand why in spite of the indigenous manufacturers in the field, this basic raw material should be continued to be imported at the expense of precious foreign exchange of Rs. 55 lakhs per annum.The Committee have therefore urged that the Company should tap the indigenous resources in the field and meet their requirements instead of importing them.

12.50. The Committee have also found that another field of indigenous manufacture where progress has been very slow compared to that in advance countries is in the field of integrated circuits. Integrated circuits of various types are basic building blocks in digital communications as in other associate fields like computer application, desk calculators, electronic exchanges etc. The Committee have stressed that a well considered crash programme of Research and Development for establishing indigenous manufacture in this promising field should be implemented so that the ITI and other concerned public undertakings can exploit this latest technology in their production programme.

12.51. The Committee have found from working results of the Company that it has healthy financial position. In view of this the Committee have expressed hope that it should be possible for the Company to wipe off its outstanding loans so that payment of interest charges thereon is avoided.

12.52. The Committee have expressed their regret to note that on the basis of the pricing policy followed by the Company in respect of stabilised items, debits to the extent of Rs. 34 lakhs and Rs. 26 lakhs during 1969-70 and 1970-71, respectively were retained by the Company resulting in reduction of profits. The Committee have, therefore, suggested that the Management should take effective steps to secure economies in costs so that these do not over run the prices to be paid by the P&T Deptt.

12.53. The Committee have been informed that manufacturing and trading accounts were prepared for all the products together and not separately for its main divisions—MAX, Transmission and Crossbar, with the result that financial results of each of the divisions could not be accurately assessed. The Committee have expressed surprise that there should have been such a lacuna in the maintenance of accounts so far. The Committee have suggested that in the interest of identifying the deficiencies in the working of the different divisions of the project, separate manufacturing and trading accounts should be prepared for each of the man divisions to ensure rectification of such deficiencies in time and to achieve greater efficiency and economy in operation.

12.54. The Committee have found that the question of preparation of the proforma accounts more frequently (now being prepared annually) is under consideration of the Management. The Committee have expressed hope that the system will be introduced soon so that the division-wise working results are made known to the Management from time to time.

12.55. The Committee have expressed regret that the bulk of the sales for which payments were outstanding relate to supplies made to Government. The Committee have observed that payments outstanding with Government Departments should have been followed up at the highest level and vigrous steps taken for their realisation. The Committee have suggested that to have a deterrent effect on avoidable delays the feasibility of charging interest on delayed payments may be examined. The Committee have also suggested that the procedure for billing and settlement of formalities should be strictly followed to ensure that in no circumstances payments are allowed to be outstanding for more than 2 months.

12.56. The Committee have expressed their satisfaction to note that the Second Factory for manufacture of Long Distance Transmission equipment was started in Naini without any outside collaboration, but they have deprecated the delay of 2 years in even applying for an industrial licence for the project sanctioned in 1968. The Committee have found that the Government took another one year for granting the licence. The Committee have observed that such delays have defeated the very object of starting a second transmission factory to augment their production.

The Committee have found that the estimates originally sanctioned in 1968 for Rs. 248.60 lakhs have since been revised and the revised estimate for Rs. 340.53 lakhs are to be put up to Government for approval. The Committee expect that Government would critically go into the reasons for the excesses over the original estimates and take prior approval of Parliament in case of substantial revision. The Committee would like in this connection to draw attention of Government/ITI to para 5.18 of the Sixty-sixth Report of the Committee on Public Undertakings (Fourth Lok Sabha).

NEW DELHI;
April 19, 1973.
Chaitra 29, 1895 (*S*).

SUBHADRA JOSHI,
Chairman,
Committee on Public Undertakings.

APPENDIX I

(*Vide* para 2·5)

Statement showing estimate of MAX and Transmission Division

Division	Year	Capacity	Original Targets	Revived Targets	Achievements	Excess(+)/Shortfall(—)Achievement		
						Capacity (6)—(3)	Original (6)—(4)	Targets Tar
1	2	3	4	5	6	7	8	9
MAX DIVISION								
(a) Telephones (including Headgear sets)	1966-67	2,64,000	2,44,200	2,33,000	2,21,937	(—) 42,063	(—) 22,263	
	1967-68	2,75,000	2,72,000	2,74,000	2,32,284	(—) 42,716	(—) 39,716	
	1968-69	2,75,000	3,45,000	2,76,000	2,57,145	(—) 17,855	(—) 87,855	
	1969-70	2,75,000	3,09,000	2,75,500	2,44,743	(—) 30,257	(—) 64,257	
	1970-71	2,75,000	3,15,500	3,11,200	2,73,120	(—) 1,880	(—) 42,380	
	1971-72	2,73,000	3,14,500	2,61,500	2,67,249	(—) 5,751	(—) 47,251	
(b) Relay Unit 600 Type Relays .	1966-67	2,76,000	3,75,000	3,75,000	2,80,797	(+) 4,797	(—) 94,203	
	1967-68	3,00,000	3,00,000	3,00,000	2,81,697	(—) 18,303	(—) 18,303	
	1968-69	3,00,000	4,00,000	3,37,000	2,21,930	(—) 78,070	(—) 1,78,070	
	1969-70	3,00,000	3,00,000	2,70,000	1,46,903	(—) 1,53,097	(—) 1,53,097	
	1970-71	3,00,000	3,00,000	3,00,000	2,21,603	(—) 78,397	(—) 78,397	

	1971-72	@	2,80,000	2,80,000	2,30,335	..	(—) 49,665	
3000 Type Relays	1966-67	10,12,000	10,00,000	10,00,000	8,95,000	(—) 1,17,000	(—) 1,05,000	
	1967-68	11,00,000	12,00,000	12,00,000	10,74,000	(—) 26,000	(—) 1,26,000	
	1968-69	11,00,000	10,00,000	8,80,000	8,42,301	(—) 2,57,699	(—) 1,57,699	
	1969-70	11,00,000	8,00,000	6,81,000	6,45,682	(—) 4,54,318	(—) 1,54,318	
	1970-71	11,00,000	9,14,000	9,14,000	7,08,895	(—) 3,91,105	(—) 2,05,105	
	1971-72	@	8,50,000	8,50,000	7,49,594		(—) 1,00,406	
(c) Selector Unit:								
(i) 2000 Type Selectors .	1966-67	3,63,000	70,000	65,000	61,061	(—) 1,939	(—) 8,939	
	1967-68	65,000	75,000	62,570	58,600	(—) 6,400	(—) 16,400	
	1968-69	65,000	70,000	50,000	52,250	(—) 12,750	(—) 17,750	
	1969-70	65,000	65,000	54,000	50,703	(—) 14,297	(—) 14,297	
	1970-71	65,000	60,000	53,000	50,522	(—) 14,478	(—) 9,478	
	1971-72	@	60,000	51,000	51,540		(—) 8,460	
(ii) Relay Sets . . .	1966-67	26,000	30,000	24,000	23,023	(—) 2,977	(—) 6,977	(—)
	1967-68	27,000	35,000	26,133	26,900	(—) 100	(—) 8,100	(+)
	1968-69	27,000	30,000	25,000	22,270	(—) 4,730	(—) 7,730	(—) 2
	1969-70	27,000	25,000	23,000	18,464	(—) 8,536	(—) 6,536	(—) 4
	1970-71	27,000	21,000	16,871	17,226	(—) 9,774	(—) 3,774	(+)
	1971-72	@	25,000	20,400	20,405	..	(—) 4,595	(+)

1	2	3	4	5	6	7	8	9
(d) Exchange Lines: (No. of Lines)								
(i) MAX I-Multiple Racks	1966-67	39,500	55,000	46,000	35,580	(—) 3,920	(—) 19,420	(—) 10
	1967-68	40,000	46,000	45,300	39,480	(—) 520	(—) 6,520	(—) 5
	1968-69	40,000	48,000	49,000	37,380	(—) 2,620	(—) 10,620	(—) 11
	1969-70	40,000	51,000	43,680	39,360	(—) 640	(—)11,640	(—) 1
	1970-71	40,000	58,500	54,000	46,710	(+) 6,710	(—) 11,790	(—) 7
	1971-72		41,000	48,175	48,265		(+) 7,265	(+)
(ii) MAX II—Misc. and Composite Racks	1966-67	29,500	45,000	30,000	28,640	(—) 860	(—) 16,360	(—)
	1967-68	30,000	37,500	40,000	29,040	(—) 960	(—) 8,460	(—) 10
	1968-69	30,000	55,000	28,900	26,400	(—) 3,600	(—) 28,600	(—) 2
	1969-70	30,000	35,000	30,000	25,680	(—) 4,420	(—) 9,320	(—) 4
	1970-71	30,000	47,160	39,780	31,680	(+) 1,680	(—) 15,480	(—) 8
	1971-72	..	42,500	39,480	40,320	..	(—) 2,180	(+)
MAX-III Small Exchange	1966-67	49,500	75,000	49,664	43,030	(—) 6,470	(—) 31,970	(—) 6
	1967-68	50,000	55,000	43,938	42,286	(—) 7,714	(—) 12,714	(—) 1
	1968-69	50,000	53,330	49,707	39,391	(—) 10,609	(—) 13,939	(—) 10
	1969-70	50,000	56,215	45,800	32,896	(—) 17,104	(—) 23,319	(—) 12
	1970-71	50,000	54,491	55,247	38,152	(—) 11,848	(—) 16,339	(—) 17
	1971-72	*	57,438	42,741	44,785	*	(—) 18,653	(+) 2

1. Speech Channels etc.	1966-67	3,500
	1967-68	2,750
	1968-69	2,500
	1969-70	2,500
	1970-71	2,200
	1971-72	1,200
2. Telegraph Channels etc.	1966-67	1,300
	1967-68	1,500
	1968-69	300
	1969-70	300
	1970 71	250
	1971-72	1,400
3. Terminal & Line Equipment to cater for coaxial routes.	1966-67	800 Kms
	1967-68	500 „
	1968-69	1,000 „
	1969-70	80 „
	1970-71	80 „
	1971-72	100 „
4. Line and Terminal Equipment to cater for microwave routes.	1966-67	300 „
	1967-68	300 „

1	2	3	4	5	6	7	8
	1968-69	1,500 Kms.					
	1969-70	1,750 „					
	1970-71	2,000 „					
	1971-72	3,000 „					
Speech & Telegraph Channels for Defence.	1966-67	50					
	1967-68	220					
	1968-69	1,000					
	1969-70	1,000					
	1970-71	1,600					
	1971-72	1,600			(Col. No. 6)	(Col. No. 7)	
		Rs. in crores			Rs. in crores	Rs. in crores	
Total in terms of value	1966-67	4			3·30	(—)0·70	
	1967-68	4			3·52	(—)0·48	
	1968-69	5			4·51	(—)0·49	
	1969-70	5·0			4·14	(—)0·86	

1970-71	5·5	6·20	(+)0·70
1971-72	7·0	6·38	(—)0·62

1. NOTE : The particulars regarding original targets, revised targets, and achievements in terms of the products for the Transmission Division are not available. It has been stated that rapid changes in the product-mix in this Division take place due to evolution of modern sophisticated techniques in electrical circuitary and design, up-dating of mechanical construction and the special needs of various customers which involve new developments and new problems to be faced.

2. NOTE : @(b) & (c) Separate figures are not necesary as they form part of exchange lines.

*(d) Total No. of lines	1971-72	1,50,000	1,46,938	1,30,396	1,33,370	(—)16,630	(—)13,568 (+)2,974

APPENDIX II

(*Vide* Para 2·12)

Statement showing Shop-wise percentage of Efficiency and incentive payment.

Sl. No.	Department	1965-66			1966 67		
		Efficiency %	Incentive payments		Efficiency %	Incentive	Payments
			Direct Rs.	Indirect (Rs. in lakhs)		Direct Rs.	Indirect (Rs. in lakhs)
1	2	3	4	5	6	7	8
1	Wire Products	88·77	3832·32		93·00	5705·33	
2	Auto Shop	85·50	10684·78		81·74	7554·96	
3	Frame Works	87·24	38357·42		87·25	41165·00	
4	Moulding	133·22	69814·11		125·32	76966·91	
5	Misc. Machine Shop	125·74	40496·00		128·72	55644·92	
6	Misc. Assembly	121·76	40201·17		109·21	33588·42	
7	Selector M/Shop	115·93	51191·13		109·52	64471·23	

8	Selector Assembly .	106·63	88291·04	104·64	88291·12	
9	Finishing	118·85	49343·14	120·63	58581·12	
10	Contacting . .	118·57	13061·20	114·75	13283·02	
11	Silver Mica . .	116·93	11395·27	123·84	12091·64	
12	Condensers	136·80	5198·47	157·17	6042·67	
13	Condensers . . .	121·35	16376·63	125·57	2758·68	
14	Die Casting . .	91·19	4627·85	100·42	6672·46	
15	Wood Works . .	113·12	49104·03	126·57	83574·33	
16	Rack Wiring . .	96·57	67824·55	91·59	85641·35	
17	Tele M[Shop .	96·51	32192·70	105·88	55697·67	
18	Tele. Assembly	108·26	72662·15	107·03	86525·61	
19	Relay M[Shop . .	129·02	68221·40	127·43	79834·60	
20	Relay Assembly	102·98	117653·52	94·17	96245·73	
21	Plant Electrical (Line Relays)	114·60	1757·47	100·60	976·62	
22	X-Coil Winding . .	105·76	6458·64	87·10	2105·19	
23	X-Coil Assembly	104·59	64349·17	99·33	65009·26	
24	X-Frame Works .	82·61	20502·37	69·12	10958·54	
25	X-Machine Shop	68·73	3573·11	69·58	6776·63	
26	X-Rack Wiring . .	86·37	5053·78	80·69	6215·18	

1	2	3	4	5	6	7	8
27	X-Channeling Machine Shop	95·37	1403·99		102·75	3744·76	
28	X-Channelling Assembly .	70·09	701·73		71·04	6547·91	
29	X-Finishing .	101·87	2082·00		114·07	3250·60	
			956411·74	12·77		1090762·19	12·57

NOTE :—The incentive payments for 1965-66 and 1966-67 are exclusive of arrears of incentive amounting to Rs. 1·33 lakhs and Rs. 0·50 lakhs respectively which were paid in 1967-68 . Shop-wise break-up is not available.

APPENDIX II (*Continued*)

Statement showing Shop-wise percentage of Efficiency and incentive payments.

Sl. No.	Department	1967-68			1968-69		
		Efficiency %	Incentive payments.		Efficiency %	Incentive payments	
			Direct (Rs.)	Indirect (Rs. in lakhs)		Direct Rs.	Indirect (Rs. in lakhs)
1	2	3	4	5	6	7	8
1	Wire Products .	104·34	7903·93		91·28	5682·13	
2	Auto Shop . .	81·85	8658·67		75·14	2678·15	

3	Frame Works	70·76	13865·26	57·71	6640·10
4	Moulding	123·81	85429·64	128·79	87042·54
5	Mics. Machine Shop.	126·23	50443·47	115·88	39586·84
6	Misc. Assembly	116·24	38058·33	117·71	46645·77
7	Selector M/Shop	111·20	71650·46	110·61	71224·08
8	Selector Assembly	94·44	57153·07	88·65	48011·32
9	Finishing	116·10	51383·09	110·52	40769·09
10	Countracting	114·83	14288·17	104·02	9519·36
11	Silver Mica	160·46	28902·16	129·50	6371·92
12	Condensers	176·46	12011·77	167·38	10099·43
13	Condensers	127·55	38112·94	125·23	46176·36
14	Die Casting	100·93	6302·13	90·19	4854·68
15	Wood Works	113·10	52235·98	116·82	65012·66
16	Rack Wiring	89·43	93031·52	89·06	101972·58
17	Tele. M/shop	118·68	98269·57	108·03	73673·22
18	Tele Assembly.	105·37	96334·10	100·81	90944·84
19	Relay M/shop	131·97	84301·21	132·81	80223·46
20	Relay Assembly	102·29	138689·49	94·69	107179·90
21	Plant Electrical X (Line Relays)	125·93	2448·69	151·28	3936·14
22	X-Coil Winding	104·29	143·15	100·21	72183·53

1	2	3	4	5	6	7	8
23	X-Coil Assembly	95·86	61279·50		..	..	
24	X-Frame Works . .	47·46	95·93		..	..	
25	X-Machine Shop	62·10	1063·57		65·21	1339·38	
26	X-Rack Wiring	92·07	19026·84		101·37	19048·02	
27	X-Channelling Machine shop .	106·94	4989·81		121·98	8935·70	
28	X-Channelling Assembly . .	73·51	5316·60		91·34	10120·20	
29	X-Finishing . .	111·44	3925·63		113·06	6760·11	
			1145314·68	13·72		1066606·51	12·04

APPENDIX III

(*Vide* Para 2·13)

Statement showing Shop-wise percentage of Efficiency and Incentive Payments.

Department	1969-70		1970-71		1971-72	
	Efficiency %	Indirect Incentive	Efficiency %	Direct Incentive	Efficiency %	Direct Incentive
1	2	3	4	5	6	7
1. Wire Products	85·51	5,488	64·77	3,358	70·81	3,337
2. Auto Shop	68·25	386	69·80	1,710	72·83	3,950
3. Frame Works	59·45	9,406	53·55	9,792	53·28	14,343
4. Moulding	129·82	97,486	124·00	95,638	109·93	83,488
5. Misc. Machine Shop	109·04	34,307	95·50	27·698	100·20	32,894
6. Misc. Assembly	102·39	34·032	95·44	28,846	80·93	20,114
7. Selector M/Shop	110·20	75,935	87·55	39·254	89·34	43,035
8. Selector Assembly	80·52	49,296	79·99	52,074	90·44	87,684
9. Finishing	101·72	27,841	108·11	41·033	107·21	56,767
10. Contacting	90·78	5,290	95·35	7,162	83·07	3,091
11. Silver Mica Condensor	130·56	8,425	109·67	6,544	131·97	12,010
12. Condensers-Clophone	156·97	9,612	142·07	9,865	139·29	9,026

1	2	3	4	5	6	7	8
13.	Condensers-Telephone	119·13	30,495	123·41	31,002	129·62	39,556
14.	Die Casting	78·67	5,134	65·95	2,324	112·12	12,416
15.	Wood Works	106·78	56,035	89·98	29,744	88·18	30,737
16.	Rackw ring	64·48	19,508	65·69	18,188	63·73	19,517
17.	Rackwiring	93·43	87,715	79·21	60,668	86·40	1,08,312
18.	Tele Mechine Shop	100·96	61,579	98·41	62,025	100·73	69,882
19.	Tele Assembly	89·39	65,372	88·44	83,622	90·34	1,14,842
20.	Relay Machine Shop	108·85	56,549	126·64	82,405	119·92	71,959
21.	Relay Assembly	83·09	66,401	88·45	89,154	84·97	90,849
22.	Plant Electrical Coil Winding	135·26	2,914	129·73	3,883	146·46	5,344
23.	X-Coil Winding	102·29	79,898	..	..	..	1,80,121
24.	X-Coil Assembly	..	..	116·20	1,08,287	125·71	
25.	X-Mis. Assy & Bay wiring	89·86	1,369	103·57	5,223	93·75	10,14
26.	X-Machine Shop	53·18	..	70·37	14,009	75·73	23,38
27.	X-Rack Wiring	58·70	1,711	..	..	41·70	..
28.	X-Rack wiring & Cables	70·12	2,952	87,13	15,091	88·45	23,809
29.	X-Channelling M/c Shop	107·37	6,230	96·38	4,868	106·52	10,663
30.	X-Channelling Assembly	86·26	7,707	99·41	15,736	91·32	20,563

31. X-Finishing	116·12	6,283	121·89	12,449	121·43	14,355
32. Defence Assembly				..	63·17	1,505
33. Microwave Assembly					63·98	1,738
34. X-Gold Plating			..	..	..	3,978*
		9,15,365		9,61,652		12,23,917
I direct Incentive (Rs. in lakhs)		9·16		9·60		12·94

*Payment based on average earning of Finishing Department.

APPENDIX IV

(*Vide* para 3·27)

Statement showing programmed capacity, the targeted and actual production during each period of 6 months from February, 1965 to January, 1968.

Description	Production Programmed/ Achieved.	Feb. 65 to July, 65	August,65 to Jan. 66	Feb. 66 to July, 66	Aug. 66 to Jan. 67	Feb. 67 to July, 67	Aug. 67 to Jan. 68	Total	Percentage of short fall
Production Capacity (at the end of the period) SCHEDULED		20000	35000	50000	75000	100000	100000		
1. Lines	Programmed	5000	15000	22000	31000	44000	50000	167000	
	Achieved		1300	3000	12000	22500	16000	54800	67·19
2. Bayframes	Production Capacity	672	1176	1680	2520	3360	3360	12768	
	Programmed	168	504	739	1042	1478	1680	5611	
	Achieved				125	167	158	550	91·07
3. Baycable Forms	Production Capacity	672	1176	1680	2520	3360	3360	12768	
	Programmed	168	504	739	1042	1478	1680	5611	
	Achieved			510	221	268	940	1939	74·32
4. Relay Frames	Production Capacity	1590	2783	3975	5963	7950	7950	30211	
	Programmed	398	1193	1749	2465	3498	3975	13278	
	Achieved			16	413	1446	1412	3436	79·44
5. Selector Frames	Prod. Capacity	1740	3045	4350	6525	8700	8700	33060	
	Programmed	435	1305	1914	2597	3828	4350	14429	
	Achieved		184	236	1181	1497	766	3864	78·88
6. Distribulting Frames	Prod. Capacity			590	885	1180	1180	3835	
	Programmed			260	366	519	590	1735	
	Achieved			32	129	334	113	608	74·05

7. Power Panels	Prod. Capacity		1250	1875	2500	2500	8125	
	Programmed		550	775	1100	1250	3675	
	Achieved					105	105	97·20
8. Supervision Panels	Prod. Capacity		1250	1875	2500	2500	8125	
	Programmed		550	775	1100	1250	3675	
	Achieved		..	..	..	..	..	100·00
9. Relays (STD)	Prod. Capacity	279500	425000	637500	859000	850000	3042000	
	Programmed	127500	187000	263500	374000	425000	1377000	
	Achieved		30581	103547	167307	141879	443314	75·65
10. Selectors	Prod. Capacity		68950	103425	137900	137900	448175	
	Programmed		30338	42749	60676	68950	202713	
	Achieved	854(P)	6221(P)	17310	20830	14750	52890	79·31
11. Horizontal Bars	Prod. Capacity		60900	91350	121800	121800	395850	
	Programme.		26798	37758	53592	60900	179048	
	Achieved	3061(P)	1792(P)	15620	21487	10509	47616	59·00

(P) is for purchase items only.

APPENDIX V

(*Vide* Para 3.42)

Summary of Suggestions made by World Bank Study Team which visited I. T. I.

(i) The employment of production consultants, including a resident production specialist at the ITI factory for the next two years. Because of the long experience of the Bell Telephone Manufacturing Compnay, Antwerp, with crossbar production in India, it is considered that ITI's interests would best be served by using the resources of this company which can also draw on the expertise of other Pentaconta crossbar manufacturers of the International Telephone and Telegraph Group.

(ii) A review of the system and procedure for procurement of materials and components for the production of switching equipment. The consultative Services Division of the Hyderabad Administrative Staff College who are presently engaged in a related study of P&T stores management would, in the opinion of the mission, be well qualified to handle this assignment. The College is willing to submit a proposal to ITI as soon as requested.

(iii) The appointment of the Member (Development) P&T, as a member of the Board of Directors of ITI would bring about the necessary direct and high level coordination between P&T and ITI. Coordination Committees, operating at the working level, would continue their activities through schedules meetings held at least quarterly.

(iv) A revision of the purchasing agreement between P&T and ITI and other steps to place responsibility for the achievement of balanced crossbar production targets, more directly with the top management of ITI. Whilst we think that you are in the best position to device methods for achieving this, you may consider possible inclusion of penalty clauses for non-adherence to agreed delivery schedules, or the with holding of some percentage of the value of crossbar equipment items delivered, until final balanced deliveries for the particular exchange concerned were completed.

(v) The creation of buffer stocks representing three to six months supply of strategic materials and components for crossbar production. This should obtiate production holdups due to unforeseen rejection or non-delivery of key material items. The foreign exchange for these stocks would be considered as forming part of the cost of production and would qualify for reimbursement under the proposed IDA credit in the normal way, through the percentage applied to the value of finished goods delivered to P&T.

(vi) A streamlining of Government procedures to facilitate urgent purchases of relatively small quantities of materials, components or production tools. In discussion with the Director General, technical Development and a Finance Ministry representative it was agreed that an advance import licence covering a general list of materials could be authorised against which limited emergency purchases could be made.

The timely diliveries from ITI of complete crossbar equipment in the quantities required for P&T's expansion programme is essential for the success of the IDA project. We would appreciate your confirmation that appropriate action will be taken to implement items (i) through (iv) as quickly as practicable, and that the Department of Communications and ITI are taking all necessary steps with respect to items (v) and (vi) to make them effective.

APPENDIX VI

(*Vide* para 6·6)

Statement of Country-wise Exports from 1966-67 to 1971-72.

Country	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Afghanistan .	84·00	2,375·38	1,830·53	1,646·00	74,977·00	10,879·50
Australia		..			1,27,984·79	6,42,908·61
Brazil .	33,34,521·49	23,71,802·72	59,422·52	..	2,850·00	..
Belgium	1,54,605·21	54,787·06	1,514·36	9,214·96	1,56,290·62	93,596·13
Bahrain	..		84·60	..	12·00	..
Burma .	47·56		1,227·08	9,045·00	7,542·96	2,979·00
Bhutan	7,500·00	..	26,490·00	20,535·53	2,271·00	727·71
Ceylon .	5,30,058·57	1,68,161·80	3,58,025·20	2,21,609·00	82,999·32	1,64,632·25
Cambodia .	..		446·00	..	..	..
Canada				2,138·40	..	..
Ethiopia			..	..	..	58,146·80
Greece .			80,065·54	35,721·40	32,083·85	13,935·28
Ghana . .		..	..		..	293·41
Ireland	58,899·32	2,54,293·08	1,70,988·31		6,108·00	..
Iran .		4,42,481·27	7,140·00			..

Iraq	478·59			20,446·54	3,821·59	55,214·25
Indonesia		1,722·90	542·25	44·92	1,883·00	2,188·95
Jordan	..	..	..	8,761·87	10,549·88	..
Kenya	..	1,29,685·80	6,30,496·82	14,65,228·46	8,20,523·54	8,28,270·25
Kuwait	3,715·86	16,120·64	..	3,793·50	19,849·62	33,545·70
Lebanon	..	..	59·65	5·68	..	..
Malaysia	36,250·38	77,301·97	6,978·36	37,810·00	14,256·71	92,845·20
Mauritious	..	5,727·38			..	..
New Zealand	2,42,009·54	70,060·20	..	..	65,000·00	35,000·00
Nepal	1,17,642·01	1,09,970·05	43,025·10	54,266·00	8,29,251·91	2,29,651·43
Nigeria	23,683·33				15,30,144·00	74,212·17
Philippines	..	..	..	..	..	9,254·70
South Vietnam	7,743·75	58,045·17	21,937·50	921·98	1,62,038·25	19,641·75
Singapore	7,105·71	22,290·63	28,084·16	42,257·15	36,944·55	1,39,241·93
Sikkim	463·59	362·80	750·00	122·00	853·14	..
Sudan	132·85				55,872·10	..
Southern Yeman	..		..			4,497·81
Somali Republic	3,084·90	..		..		..
Syria			..	19,222·37	..	..
Tanzania	..	..	2,96,067·21	20,15,073·85	4,55,968·89	1,52,982·57
Thailand	50,128·92	337,139·93	1,594·61	..	508·00	20,264·30

Country	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
Turkey	974·00	..	..	..	..	..
United Kingdom	35,14,570·93	11,84,873·72	22,39,952·54	38,63,433·40	3,37,528·84	2,94,994·41
U.A.R.	22,204·95	1,18,839·29	5,943·93	2,37,007·27	20,072·52	10,161·62
U.S.S.R.	674·28	2,022·84	..	..	2,305·00	3,194·50
Uganda	..	7,556·45	5,55,440·01	9,02,920·22	1,63,747·93	1,68,789·77
West Germany		..	14,364·00	..	..	..
Zambia	..	..	..	..	545·33	46,264·48
TOTAL	81,16,579·74	51,35,621·08	72,31,480·48	89,71,225·50	50,24,784·34	32,08,313·68

APPENDIX VII

(*Vide* para 7·2)

Cases in which efficiency adopted for standard costs was lower as compared with efficiency achieved

Sl. No.	Name of the Shop	Year	Efficiency	
			Adopted %	Actual %
MAX DIVISION				
1.	Moulding	1966-67	100·00	125·00
		1967-68	100·00	124·00
		1968-69	100·00	124·00
		1969-70	100·00	129·82
		1970-71	92·73	124·00
		1971-72	90·00	109·93
2.	Condenser (Shop No. 181).	1966-67	100·00	157·00
		1967-68	100·00	176·00
		1968-69	100·00	167·00
		1969-70	100·00	156·97
		1970-71	92·73	142·07
		1971-72	90·00	139·29
	Relays	1966-67	100·00	127·00
		1967-68	100·00	132·00
		1968-69	100·00	133·00
		1969-70	100·00	108·85
		1970-71	92·73	126·64
		1971-72	90·00	119·92
	Telephones	1966-67	100·00	106·00
		1967-68	100·00	119·00
		1968-69	100·00	108·00
		1969-70	100·00	100·96
		1970-71	92·73	98·41
		1971-72	90·00	100·73

Sl. No.	Name of the Shop	Year	Efficiency	
			Adopted %	Actual %
5.	Uniselector and other M/c Shop. . .	1966-67	100·00	129·00
		1967-68	100·00	126·00
		1968-69	100·00	116·00
		1969-70	100·00	109·04
		1970-71	92·73	95·50
		1971-72	90·00	100·20
6.	Finishing (Labour) . .	1966-67	100·00	121·00
		1967-68	100·00	116·00
		1968-69	100·00	111·00
		1969-70	100·00	101·72
		1970-71	92·73	108·11
		1971-72	90·00	107·21
	TRANSMISSION DIVISION			
7.	Finishing Shop	1967-68	70·00	111·00
		1968-69	70·00	113·00
		1969-70	70·00	116·12
		1970-71	100·00	116·20
		1971-72	100·00	121·43
8.	Coil Winding . . .	1966-67	70·00	99·00
		1967-68	70·00	96·00
		1968-69	70·00	100·00
		1969-70	70·00	102·29
		1970-71	70·00	121·89
		1971-72	90·00	125·71
9.	Misc. Assembly . . .	1969-70	60·00	89·86
		1970-71	60·00	103·57
		1971-72	65·00	93·75
10.	Channelling	1969-70	60·00	107·37

Sl. No.	Name of the Shop	Year	Efficiency	
			Adopted %	Actual %
		1970-71	60·00	96·38
		1971-72	75·00	106·52
	Cases in which efficiency adopted for standard costs is higher than efficiency achieved.			
	MAX DIVISIONS			
1.	Auto Machine Shop . . .	1966-67	100·00	82·00
		1967-68	100·00	82·00
		1968-69	100·00	75·00
		1969-70	100·00	68·25
		1970-71	92·73	69·80
		1971-72	90·00	72·83
2.	Frame Works .	1966-67	100·00	87·00
		1967-68	100·00	71·00
		1968-69	100·00	58·00
		1969-70	100·00	59·45
		1970-71	92·73	53·55
		1971-72	90·00	53·28
3.	Rack Wiring	1966-67	100·00	92·00
		1967-68	100·00	89·00
		1968-69	100·00	89·00
		1969-70	100·00	64·48
		1970-71	92·73	65·69
		1971-72	90·00	63·73
4	Wire Products .	1969-70	100·00	85·51
		1970-71	92·73	64·77
		1971-72	90·00	70·81

APPENDIX VIII

(*Vide* para 7·14)

Statement showing the Cost variation Division-wise

(*Rs. in lakhs*)

Year	Variation on completed orders for transfer to finished stock	Material valuation differentees for stores and stocks	Over/under absorption of Shop overheads	Total
1	2	3	4	5
A. Stabilised Items				
MAX				
1966-67	(—)23·38	(—) 8·94	(—) 20·24	(—) 52·56
1967-68	(—) 57·06	(—) 3·07	(—) 14·31	(—) 74·44
1968-69	(—) 60·18	(—) 11·96	50·69*	(—) 21·45
	(—)140·62	(—) 23·97	16·14	(—) 148·45
1969-70	(—) 33·09	(—) 75·71	104·36	(—)4·44
1970-71	211·03	(—) 132·79	9·94	88·18
1971-72	145·08	(—)220·09	87·26	12·25
J & K.				
1969-70	0·03	0·15	0·34	0·52
1970-71	0·25	1·02	0·43	1·70
1971-72	(—) 0·98	2·16	(—)0·04	1·14
TRANSMISSION				
1966-67	8·93	(—) 5·24	8·87	12·56
1967-68	32·28	(—) 68·38	12·38	(—) 23·72
1968-69	17·22	(—) 56·93	22·01@	(—) 17·70
	58·43	(—) 130·55	43·26	(—) 28·86

*Includes Rs. 44·79 lakhs received from P&T on account of D. A. arrears.

@Includes Rs. 10·89 lakhs received from P & T on account of D.A. arrears.

1	2	3	4	5
1969-70	10·43	(—) 24·68	41·89	27·64
1970-71	19·84	(—) 86·58	(—) 3·87	70·61
1971-72	(—)50·08	(—) 15·33	20·41	(—) 45·00
DEVELOPMENT				
1969-70	0·98	(—) 0·06	5·06	5·98
1970-71	(—)1·99	(—) 0·99	(—)2·19	(—)5·17
1971-72	2·59	(—) 0·41	0·22	2·40
OVERALL (MAX and TRANSMISSION)				
1966-67	(—) 14·45	(—) 14·18	(—) 11·37	(—) 40·00
1967-68	(—) 24·78	(—) 71·45	(—) 1·93	(—) 98·16
1968-69	(—) 42·96	(—) 68·89	72·70	(—) 39·15
	(—) 82·19	(—)154·52	59·40	(—)177·31
1969-70	(—) 21·65	(—)100·30	151·65	29·70
1970-71	229·13	(—)219·34	4·31	14·10
1971-72	96·61	(—)233·67	107·85	29·21
B. Non-Stabilised				
TRANSMISSION				
1966-67	3·28	(—) 1·93	3·26	4·61
1967-68	5·59	(—) 5·77	2·09	1·91
1968-69	(—) 0·35	(—) 2·92	5·94	2·67
	8·52	(—)10·62	11·29	9·19
1969-70	11·42	(—) 1·41	3·33	13·34
1970-71	6·98	(—) 0·19	(—) 0·03	6·76
1971-72	(—) 5·73	(—) 0·14	0·33	(—) 5·54
DEVELOPMENTS				
1966-67	(—) 7·67	(—) 0·93	8·52	(—) 0·08
1967-68	(—) 24·68	(—) 0·46	6·46	(—) 18·68

1	2	3	4	5
1968-69	(—) 3·90	0·19	6·98	3·27
	(—) 36·25	(—) 1·20	21·96	(—) 15·49
1969-70	3·24	(—) 0·27	16·78	19·75
1970-71	(—) 7·62	(—) 4·28	(—) 8·38	(—) 20·28
1971-72	11·37	(—) 0·81	0·96	11·52
CROSSBAR				
1966-67	(—) 59·14	(—) 19·85	45·17	(—) 33·82
1967-68	(—)122·14	(—) 5·97	23·24	(—)104·87
1968-69	(—)156·66	11·05	50·67	(—) 94·94
	(—) 337·94	(—) 14·77	119·08	(—)233·63
1969-70	(—)103·74	66·85	13·65	(—) 23·24
1970-71	(—) 3·80	(—) 50·11	(—)55·03	(—) 58·94
1971-72	27·27	(—) 13·06	(—) 15·65	(—) 1·44
OVERALL (*Transmission Development and Crossbar*)				
1966-67	(—) 63·53	(—) 22·71	56·95	(—) 29·29
1967-68	(—)141·23	(—) 12·20	31·79	(—)121·64
1968-69	(—)160·91	8·32	63·59	(—) 89·00
	(—)365·67	(—) 26·59	152·33	(—)239·93
1969-70	(—) 89·08	65·17	33·76	39·85
1970-71	(—) 4·44	(—) 4·58	(—) 63·44	(—) 72·46
1971-72	32·91	(—) 14·01	(—) 14·36	4·54

NOTE : (I) Minus balances represent excess of standards over actuals and plus balances represent excess of actuals over standards.

(ii) 'B' represents sales to P&T . only. Sales of non-stablished items to non-P&T. customers are all included under 'A' stablished items.

Particulars of cost variation division wise for the year 1971-72 are as follows :—

(Rupees in lakhs)

	Variation on completed orders	Material valuation differences	Over/under absorption of over-heads	Total.
Stabilised items				
MAX.	145·08	(—)220·09	87·26	12·25
Transmission	(—) 50·08	(—) 15·33	20·41	(—) 45·00
Development	2·59	(—) 0·41	0·22	2·40
J & K Unit	(—) 0·98	2·16	(—) 0·04	1·14
Overall	96·61	(—)233·67	107·85	29·21
Non stabilised items				
Transmission	(—) 5·73	(—) 0·14	0·33	(—) 5·54
Development	11·37	(—) 0·81	0·96	11·52
Crossbar	27·27	(—) 13·06	(—) 15·65	(—) 1·44
Overall	32·91	(—) 14·01	(—) 14·36	4·54

APPENDIX IX

(*Vide* Para 7·14)

Statement showing the break-up of material valuation differences under the various Heads

(Rupees in lakhs)

Divisions	Price Difference in respect of purchases	Valuation differece of closing stock			Other valuation differences	Total
		In respect of purchases	In respect of manufactures	Total		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Stabilised						
MAX						
1966-67	76·84	(—)46·51	(—)34·15	(—)80·66	(—)5·12	(—)8·94
1967-68	66·04	(—)25·96	(—)2·22	(—)28·18	(—)40·93	(—)3·07
1968-69	(—)3·10	(—)2·48	(—)4·18	(—)6·66	(—)2,20	(—)11·96
	139·78	(—)74·95	(—)40·55	(—)115·50	(—)48·25	(—)23·97
1969-70	6·50	(—)12·07	(—)3·93	(—)16·00	(—)66·21	(—)75·21
1970-71	46·01	(—)13·36	(—)20·68	(—)34·04	(—)144·76	(—)132·79
1971-72	(—)16·14	(—)1·39	(+)32·39	(+)31·00	(—)234·95	(—)220·09
	36·37	(—)26·82	7·78	(—)19·04	(—)445·92	(—)428·59

J & K Unit						
1969-70	0·05	0·10	..	0·10	0·01	0·16
1970-71	1·78	0·77	..	(—)0·77	..	1·01
1971-72	(—)0·07	2·44	(—)0·10	2·34	(—)0·11	2·16
	1·76	1·77	(—)0·10	1·67	(—)0·10	3·33
Transmission						
1966-67	8·88	(—)13·37	..	(—)13·37	(—)0·75	(—)5·24
1967-68	5·79	(—)3·53	(—)25·16	(—)28·69	(—)45·48	(—)68·38
1968-69	(—)4·89	(—)3·78	(—)8·09	(—)11·87	(—)40·17	(—)56·93
	9·78	(—)20·68	(—)33·25	(—)53·93	(—)86·40	(—)130·55
1969-70	(—)3·36	2·13	(—)11·28	(—)9·15	(—)12·18	(—)24·69
1970-71	(—)3·35	0·51	(—)20·02	(—)19·51	(—)63·72	(—)86·58
1971-72	(—)23·16	2·01	(—)1·36	(+)3·37	(+)4·45	(—)15·34
	(—)29·87	4·65	(—)29·94	(—)25·29	(—)71·45	(—)126·61
Development						
1969-70	0·12	(—)0·03	(—)0·13	(—)0·16	(—)0·03	(—)0·07
1970-71	0·07	(—)0·33	(—)0·71	(—)1·04	(—)0·02	(—)0·99
1971-72	(—)0·49	0·18	(—)0·21	(—)0·03	0·12	(—)0·40
	(—)0·30	(—)0·18	(—)1·05	(—)1·23	0·07	(—)1·46

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Non-stabilised Transmission						
1966-67	3·26	(—)4·92	..	(—)4·92	(—)0·27	(—)1·93
1967-68	0·98	(—)0·60	(—)4·25	(—)4·85	(—)1·90	(—)5·77
1968-69	(—)0·88	(—)0·68	(—)1·46	(—)2·14	(—)0·10	(—)2·92
	3·36	(—)6·20	(—)5·71	(—)11·91	(—)2·07	(—)10·62
1969-70	(—)0·27	0·17	(—)0·90	(—)0·73	(—)0·41	(—)1·41
1970-71	(—)0·02	0·01	(—)0·14	(—)0·13	(—)0·04	(—)0·19
1971-72	(—)0·20	0·02	0·01	0·03	0·04	(—)0·13
	(—)0·49	0·20	(—)1·03	(—)0·83	(—)0·41	(—)1·73
Crossbar						
1966-67	9·11	(—)30·00	..	(—)30·00	1·04	(—)19·85
1967-68	(—)27·31	10·59	6·07	16·66	4·68	(—)5·97
1968-69	(—)7·01	(—)8·77	(—)9·79	(—)18·56	36·62	11·05
	(—)25·21	(—)28·18	(—)3·72	(—)31·90	42·34	(—)14·77
1969-70	(—)4·11	(—)1·41	18·35	16·94	54·02	66·85
1970-71	12·99	0·68	(—)1·44	(—)0·76	(—)12·34	(—)0·11
1971-72	(—)32·29	23·78	(—)7·48	16·30	2·93	(—)13·06
	(—)23·41	23·07	9·43	32·48	44·61	53·68

Development						
1966-67	0·23	..	(—)1·33	(—)1·33	0·17	(—)0·93
1967-68	0·30	(—)0·93	(—)0·27	(—)1·20	0·44	(—)0·46
1968-69	0·79	(—)0·39	(—)0·11	(—)0·50	(—)0·10	0·19
	1·32	(—)1·32	(—)1·71	(—)3·03	0·51	(—)1·20
1969-70	0·38	(—)0·10	(—)0·40	(—)0·50	(—)0·15	(—)0·27
1970-71	0·26	1·27	(—)2·70	(—)3·97	(—)0·57	(—)4·28
1971-72	(—)0·98	0·35	(—)0·44	(—)0·09	0·26	(—)0·81
	(—)0·34	(—)1·02	(—)3·54	(—)4·56	(—)0·46	(—)5·36

APPENDIX X

(*Vide* Para 7·14)

Statement showing the Break-up of over and Under Absorption of shop Overheadt under Expenditure and Volume Variance

(Rs. in lakhs)

	Expenditure variance	Volume variance	Overall variance	Remarks
1	2	3	4	5
Stabilised Division				
MAX				
1966-67	(—)26·98	(+)15·26	(—)11·72	
1967-68	(—)43·35	(+)29·04	(—)14·31	
1968-69	(—)3·71	(+)54·40	(+)50·69	
	(—)74·04	(+)98·70	(+)24·66	
1969-70	(+)58·96	(+)45·40	(+)104·36	
1970-71	(—)40·59	(+)50·53	(+)9·94	
1971-71	(+)47·31	(+)39·95	(+)87·26	
	(+)65·68	(+)135·88	(+)201·56	
Transmission				
1966-67	(—)3·14	(+)12·01	(+)8·87	
1967-68	(—)18·98	(+)31·36	(+)12.38	
1968-69	(—)4·66	(+)26·67	(+)22·01	
	(—)26·78	(+)70·04	(+)43·26	
1969-70	(+)6.29	(+)35·60	(+)41·89	
1970-71	(—)25·01	(+)21·14	(—)3·87	
1971-72	(+)10·70	(+)9·71	(+)20·41	
	(—)8·02	(+)66·45	(+)58·43	
Development				
1969-70	(+)3·26	(+)1·80	(+)5·06	
1970-71	(—)1·77	(—)0·42	(—)2·19	
1971-72	(+)0·15	(+)0·07	(+)0·20	
	(+)1·64	(+)1·45	(+)3·09	

1	2	3	4	5
J & K. UNIT				
1969-70	(—)0·51	(+)0·85	(+)0·34	
1970-71	(+)0·95	(—)0·52	(+)0·43	
1971-72	(+)0·60	(—)0·64	(—)0·04	
	(+)1·04	(—)0·31	(+)0·73	
Non Stabilised				
Transmission				
1966-67	(—)1·16	(+)4·42	(+)3·26	
1967-68 . . .	(—)3·20	(+)5·29	(+)2·09	
1968-69	(+)1·13	(+)4·81	(+)5·94	
	(—)3·23	(+)14·52	(+)11·29	
1969-70 . . .	(+)0·50	(+)2·83	(+)3·33	
1970-71	(—)0·16	(+)0·13	(—)0·03	
1971-72	(+)0·17	(+)0·16	(+)0·33	
	(+)0·51	(+)3·12	(+)3·63	
Development				
1966-67 @				@included under MAX during 1966-67.
1967-68	(+)5·13	(+)1·33	(+)6·46	
1968-69	(+)3·46	(+)3·52	(+)6·98	
	(+)8·59	(+)4·85	(+)13·44	
1969-70	(+)10·79	(+)5·99	(+)16·78	
1970-71	(—)6·78	(—)1·60	(—)8·38	
1971-72	(+)0·65	(+)0·31	(+)0·96	
	(+)4·66	(+)4·70	(+)9·36	
Crossbar				
1966-67	(+)35·78	(+)9·39	(+)45·17	
1967-68	(+)5·74	(+)17·50	(+)23·24	
1968-69	(+)30·23	(+)20·44	(+)50·67	
	(+)71·75	(+)47·33	(+)119·08	

1	2	3	4	5
1969-70	(—)8·92	(+)22·57	(+)13·65	
1970-71	(—)36·81	(—)18·22	(—)55·03	
1971-72	(+)12·70	(—)28·36	(—)15·66	
	(—)33·03	(—)24·01	(—)57·04	

APPENDIX XI

(*Vide* para 7 24)

Statement showing standard costs and selling prices charged to P&T (Referred in Para 11·03)

Sl. No.	Code No.	Description		1969-70	1970-71	1971-72	1969-70
1	2	3		4	5	6	7
MAX DIVISION							
							% -of increase in 1971-72 over 1969
		I. *Telephones*					
1	DJL 11044 A1	Auto Telephones	SP	94·99	113·54	133·54	40·62
2	DJL 11044 A2	CB Telephone	Cost	80·33	96·02	113·80	41·65
3	DJL 11127 A 1	Magnet	S. P.	78·55	89·80	104·46	
			Cost	66·43	75·94	88·99	
		Telephone	SP	145·83	171·44	200·74	37·65
			Cost	123·32	144·98	171·02	38·68
4	DJL 11111A	Priyadarsin	S.P.	105·34	125·52	156·54	
			Cost	89·08	106·15	133·37	
5	BL 38048 A	Telephone Transmitter inset	SP	4·55	5·16	6·36	
			Cost	3·85	4·36	5·42	

1	2	3	4	5	6	7	8
	II. PAX and SAX						
6	DJL 260289 Group I	SAX 10 lines	SP	2291·82	2873·52	..	20·53
			Cost	1938·11	2430·04	..	25·38
7	DJL 260263 Group II	SAX 25 Lines	SP	3483·25	3954·80		13·53
			Cost	2945·67	3344·44	..	13·54
8	DJL 260113	Group I PABX 5-1-1	SP	1748·31	1998·02	2417.37	38·20
			Cost	1478·49	1689·66	2059·47	39·29
9	BJL 260835	Group IV PABX 2×/50	SP	6919·25	8083·32		16·08
			Cost	5851·37	6835·79		16·65
		III. *Switches and Relay Sets*					
10	DJL 24121 FIA	Selector 2000 Type	SP	277·71	330·96	401·05	44·09
			Cost	234·85	279·88	341·67	45·12
11	DJL 230023	Do.	SP	465·60	531·83	666·45	43·13
			Cost	393·74	449·75	567·77	44·19
12	BJC 216090	Relay set	SP	328·24	388·40	451·07	37·61
			Cost	277·58	328·46	384·28	38·30

13	DJC 200820 F2 plus Fza	Relay set	SP	217·13	257·90	314·00	44·61
			Cost	183·62	218·10	257·51	45·53
14	DJC 202310 F1	Director Part I	SP	1042·09	1195·50	1357·41	..
			Cost	881·26	1010·99	1156·47	
15	BJC 202310 F3	Director II	SP	693·10	849·13		
			Cost	586·13	718·08		
		IV. *Post Office Meters*					
16	BJL 70616	PO Meters	SP	17·60	21·27		20·85
			Cost	14·88	17·99	..	20·92
17	BJL 70546	PO Meters	SP	14·73	17·68	13·26	(—)11·03
			Cost	12·46	14·95	11·30	(—)10·25
18	DL 67001	Heat Coil Protector	SP	153·78	151·88	198·50	
			Cost	130·05	128·44	169·11	..
		V. *Racks*					
19	Uni Selector Rack		SP	30441·74	34557·08	40437·78	32·83
			Cost	25743·54	29223·75	34450·02	33·82
20	Final Selector Rack		SP	13366·28	14434·77	16377·13	22·52
			Cost	11303·41	12206·99	13952·11	23·43
21	Group Selector	Rack	SP	15654·29	16774·02	18889·20	20·66
			Cost	13238·30	14185·22	16092·21	21·55

1	2	3		4	5	6	7
22	Relay Set Rack		SP		3120·58	3529·93	13·11
			Cost		2638·97	3007·24	13·95
		VI. *Relays*					
23	VBJ 500 B7 ZR	Relay 600 Type	SP	9·45	10·86	15·48	63·81
			Cost	7·99	9·18	13·19	65·09
24	BRJ 1202 A4ZR 600	Relay Type	SP	10·43	11·84	15·13	45·05
			Cost	8·32	19·67	12·89	45·01
25	BJK 501 I 8Z	Relay 3000 Type	SP	15·25	14·11	16·73	9·7
			Cost	12·90	11·93	14·25	10·46
26	BL 67711A	Yoke	SP	1·44	1·61	2·08	..
			Cost	1·22	1·36	1·77	
27	BL 79114	Core	SP	0·48	0·65	0·77	
			Cost	0·41	0·55	0·66	
		VII. *Condeser*					
28	BL 68072	Condenser	SP	6·33	7·28	6·60	0·04
			Cost	5·35	6·16	5·62	0·05
29	BL 68073	Condenser	SP	5·27	6·08	5·16	
			Cost	4·46	5·14	4·40	

TRANSMISSION DIVISION

I. *Terminating Equipments*

1 DE 100000 A5	2 W Access Bay (80 Channels)	SP	14662·73	18508·95	17015·09	16·04
		Cost	12399·77	15652·39	14495·61	20·09
2 DE 100001 A5	4 WAccess Bay (80 Channels)	SP	8063·02	9775·53	10073·19	24·09
	Bay	Cost	6818.62	8266·83	8581·62	23·08
3 DE 100005	A5 2W/4W Acess (80 Channels)	SP	19091·02	639·63·67	22649·94	18·5
		Cos	16144·63	20265·26	19296·09	19·4
4 D 646505 A1	Line Terminating Bay	SP	4496·40	5225·17	5549·04	23·4
		Cost	3802·45	4418·75	4727·38	24·3

II. 3 *Channels*

5 DE 102003 A1	3 Channel Terminal Bay	SP	17465·67		..	..
		Cost	14770·12		..	..
6 DJV 1149 A1	3 Channel Group Terminal	SP	9085·27		..	..
		Cost	7683·10		..	..

III.—8. *Channels*

7 DE 102005 A1	8 Channel (Terminal Bay)	SP	18766·91	24741·16	25414·82	34·4
		Cost	15870·54	20922·76	21651·56	36·4
8 DJV 1152 A1	8 Channel Group Terminal	SP	20018·05	23652·80	23617·48	18·03
		Cost	16928·58	20002·37	20120·36	18·76

1	2	3		4	5	6	7
		IV. 12 *Channels*					
9	DE 102001 A1	Channelling Bay	SP	39014·80	43862·78	50966·42	30.63
			Cost	32993·49	41321·59	43419·65	31·63
10	DjV 1124 A1	1 Group of 12 Channels	SP	26413·82	30703·72	32559·47	31·5
			Cost	22337·27	25965·09	27738·28	24·14
		V. VET *Channels*					
11	DE 118007 A1	FMVFT with 12 channels	SP	44536·25	50778·09	52250·77	17·32
			Cost	37662·79	42941·30	44513·82	18·19
12	DE 119003 A1	S Plus DX	SP	11348·57	13126·46	13416·65	18·22
			Cost	9597·10	11100·60	11430·00	18·09

SP. Selling Price

APPENDIX XII

Summary of conclusions/Recommendations of the Committee on public Undertakings contained in the Report

Sl. No.	Reference to para No. in the Report	Summary of conclusions Recommendations
(1)	(2)	(3)
1	2.15 to 2.16	The Committee regret to note that no serious effort has been made to determine precisely the capacity of the MAX and Transmission Divisions from year to year. The targets and actual production have been indicated in the Transmission Division in terms of value alone. In view of the fact, that targets of production of the various items had to be varied from year to year depending upon the product-mix and in view of the fact that value of production could rise on account of price and quantity variance and other factors. the Committee feel that there was no clear-cut yardstick available to the Management for evaluating the efficiency in production performance. The Committee recommend that keeping in view the past performance and the likely types of orders to be received, it should be possible for the Company to make an accurate assessment and fix the capacity for evaluating the performance. The Committee find that, on the one hand, the Management stated that the production schedules were prepared taking into account the availability of machines, equipments and also the fore cast of the orders, on the other hand the Management attributed the shortfall in production to the fixation of targets deliberately at a higher level as a measure of incentive for higher production.
2	2.17	The Committee also found (vide Chapter VI of this report) that sales performance of the Company revealed that the Company failed to

(1)	(2)	(3)
		be available. Even when the targets were revised taking into account the various factors, they were found to be in excess of the available capacity in some cases and the production fell far short of targets as well as available capacity. The Committee cannot but conclude from all these factors that the targets were not being fixed on rational and scientific basis. The Committee feel that fixation of targets at a higher level earlier and slashing down later is not a healthy practice in production planning as it gives misleading picture of the performance of the undertaking. The Committee, therefore, again stress that all out efforts should be made to fix the targets on a more rational and scientific basis taking into consideration all the factors concerned with production and the company should take adequate steps to ensure that the targets are actually achieved.
3	2.18	The Committee note that the actual production generally fell short of the targets both in the MAX and Transmission Divisions from 1966-67 to 1970-71. The Committee were informed that the shortfall in production were mainly on account of inadequate receipt of raw-materials|components|piece parts and of prescribed quality, non-receipt and non-availability of imported stores and the labour efficiency being less than 100 per cent . The Committee note that while the Company had already taken measures to ward off delays in obtaining import licences and to see that supply of indigenous components are received well in time, the labour efficiency had declined from 105.9 per cent in 1965-66 to less than 100 per cent in 1971-72, although the amount of labour incentives both direct and indirect showed an unward trend from 1965-66 to 1967-68 and

(1)	(2)	(3)
		again in 1971-72. The Committee note that out of 31 shops now functioning, 5 shops have not attened 100 per cent efficiency at any stage while 7 shops have fallen below 100 per cent efficiency from 1968-70. The Committee are concerned to find that while the expenditure on labour incentives has increased, the efficiency has actually come down thus causing shortfall in production. The Committee note that the incentive scheme already in vogue was reviewed in January, 1970 and according to the Management, certain modifications would be called for in the Scheme and these are under active consideration. The Committee recommend that the Management should finalise the modified scheme without any further delay ensuring that the modified scheme does not have any adverse effect. The Committee have also suggested that the Management should consider relating labour incentives to productivity so as to improve the efficiency and achieve better production performance. The Committee have also suggested that the reasons for decline in efficiency in the 7 shops should be gone into and suitable remedial measures taken to improve their efficiency.
4	3.9	The Committee note that on account of the changes in the actual specifications of equipment required by the P&T in variation of the Jorbagh pattern which was stipulated in the agreement entered into in May, 1964 with BTM, the catalouge supplied at the time of entering into agreement, for special machines, tools and test equipment and equipment units did not contain many items ordered by the Company with the result that the Company had to obtain a supplementary catalouge in December, 1966. The Committee note that even the original and supplementary catalogues together were not found exhaustive and consequently for items remaining uncovered pricing details were obtained as and when necessary. The Committee are at a loss to understand why the specifications required by P&T could not have been settled well in advance of concluding the agreement with the BTM.

(1)	(2)	(3)
		The Committee regret to note that the matter regarding escalation terms applicable to the items covered by the supplementary catalogue and later quotations is still pending settlement and only provisional payments have been made for the supplies received. The Committee also note that the escalation terms prescribed in the supplementary catalogue were also different from the original. The Committee were informed that orders were not placed catalogue-wise or quotation-wise separately but as and when required as per P&T Production pattern and it is now difficult to assess the value of orders catalogue-wise or quotation-wise separately. The Committee fail to understand as to why the terms and conditions of purchase could not be settled in advance and why orders against different catalogues and quotations were not placed separately and how payments therefor were regulated especially when the escalation terms for supplementary catalogues and later quotations were different from the original. The Committee need hardly stress that supplies against the different catalogues and quotations should be segregated at least now and terms of escalation and payments therefor finally settled without delay. The Committee also stress that the terms and conditions of purchases should be settled well in advance of placing the orders so that the Management may know the exact contractual liability and financial implications to avoid disputes at a later stage.
5	3.15 to 3.17	The Committee note that the agreement with the BTM which was to have expired on the 21st May, 1971 was extended first from May, 1971 to May, 1972 and again from May, 1972 to May, 1973 in spite of the problems of production as well as in the maintenance of cross-bar exchanges sup-

(1)	(2)	(3)
		plied by the collaborators. The Committee were informed that this extension was for the benefit of ITI in order to enable follow-up action for the removal of certain deficiencies in the equipment particularly in design most of which relate to defective spark quenchers, corrosion of certain parts due to climatic conditions, circuit defects and common control equipment etc. While the Committee note that the cross-bar system of tele-communications is modern in design, concept and utilisation, they are constrained to point out that the type of cross-bar technology for manufacture in India has been found in actual practice not to be fully suited to our conditions. The Committee are at a loss to understand how such a serious shortcoming crept in when a technical team of senior officials had gone round different countries to examine and recommend the most suitable type of cross-bar equipment for manufacture in the country. The Committee were informed that the Company indicated to the collaborators, the pattern of traffic and other information which was sufficient only for the strowger system and without adequate data about the periodicity of calling which was an essential feature in this system and which has an important bearing on the design of the equipment. The Committee fail to understand why such an essential pre-requisite as periodicity of calls was not indentified in detail and the special feature of Indian conditions kept in view while selecting the collaboration for the cross-bar equipment. The Committee feel that at least at the time of preparing the Detailed Project Report, these features should have been gone into in detail so that the type of cross-bar exchange and the equipment which was manufactured really suited the Indian conditions. The net result of the serious omission has been that in the case of the cross-bar system installed in Bombay, as compared to 9,400 lines capacity only 6019 lines could be provided resulting in a recurring loss of about Rs. 30 lakhs per annum.

(1)	(2)	(3)
		This matter has been highlighted by the Public Accounts Committee, (1971-72) in paragraph 1.1 of their 2nd Report (5th Lok Sabha) while examining the financial implications of the defective cross-bar system installed in Bombay. Since this equipment has also been installed elsewhere, the Committee apprehend that the financial loss might be far higher. In view of the above, the Committee desire that the reasons for not keeping in view the peculiar conditions of Indian telephone operation while deciding foreign collaboration and latter not rectifying this serious omission even at the time of preparing the detailed project report should be gone into and responsibility fixed. The Committee note that Government claim now to have found solutions to overcome these shortcomings. The Committee wish that Government had taken concerted measures much earlier and had effected the necessary rectification without any loss of time. At any rate, the Committee desire that the cross-bar equipment already installed should be systematically rectified and the Committee informed whether it has, in fact, now been able to achieve the rated capacity in actual operations. The Committee would also like ITI to confirm that the cross-bar equipment now being manufactured at least conforms to the Indian requirements and is free from the defects which had earlier depressed its operating capacity/efficiency. The Committee would also like Government to analyse in detail the shortcomings and handicaps which have been experienced in selecting this foreign collaboration and in its subsequent operation so as to learn the requisite lessons and advise all Public Undertakings how to avoid such pitfalls in future.
6	3.20	The Committee note that though the original estimate for Rs. 127 lakhs sanctioned by Gov-

(1)	(2)	(3)
		ernment in 1966 was exceeded as early as 1966-67 the Company prepared a revised estimate only after the project had been fully set up in 1968 and submitted it to the Board of Directors in June, 1970. The Board approved the revised estimate in October-November, 1971 *i.e.* after more than one year and the revised estimates were sanctioned by Government in 1972 after another 10 months. The Committee regret to note the laxity of financial control both on the part of Management and Government in having allowed the Company to continue to incur expenditure on the project without a Revised Estimate being prepared and approved by competent authority. The Committee need hardly stress that the Revised Estimate should not be construed as a completion Report of the Project but it is an instrument of financial control and should have been prepared and got sanctioned when there was the slightest likelihood of the estimates being exceeded and not after the project was fully set up. The Committee feel that Ministry should also have taken steps to obtain the Revised Estimate even in 1966-67 when the expenditure exceeded the original estimate. The Committee recommend that the procedural delays and various lapses which have caused the delay in the preparation and sanction of the revised estimates should be investigated and responsibility therefor fixed.
7	3.26	The Committee are surprised to note that though the project estimate envisaged the manufacture of local exchanges, trunk exchange, Rural exchange, PABX's concentrator line units for use with step by step equipment and pentaconta equipment, no time schedule was laid down

(1)	(2)	(3)

either in the agreement which was to run till August, 1971 or in the Project Report or by the Company for taking up the production of these items individually.

The Committee were informed that production of various types of equipment referred to in agreement was taken up depending on priority requirements of P. & T. from time to time and therefore, a time schedule for production of individual items was not necessary. The Committee were also informed that a detailed time schedule was made by the Company only for manufacturing local and trunk exchanges as they were more concerned with larger exchanges than smaller ...

The Committee feel that had a time schedule of manufacture of the different exchanges been laid down in the agreements and designs for all the types and prototypes of all kinds of exchanges been done according to the schedule within the currency of the agreement, any defects/deficiencies in those areas would have come to their knowledge in time, before the extension of the agreement with the collaborators was decided upon. The Committee stress that even now it is too late for the Government to take steps to complete the trial of prototype Rural exchanges to assess their performance within the extended period of the agreement.

8 3.43 to 3.44 The Committee note that according to the BTM agreement for setting up of the plant capable of manufacturing one lakh lines on Jorbagh basis of contract equipment on a single shift working, the full capacity was to have been achieved in a period of 36 months commencing

(1)	(2)	(3)

from August, 1964 and ending July, 1967. The Committee regret to note that the actual performance in terms of output has been much lower than that programmed in the agreement. The shortfall ranges from 67 per cent to 100 per cent at the end of January, 1968. The management has attributed various types of delays as reason for shortfall in phases I and II (February, 1965—July, 1967). The management have also admitted that there were delays in finalisation of facility schedules/specifications, etc. by the P. & T. Though for some of the delays pertaining to supply of know-how, semi-equipped assemblies etc., the BTM was also responsible, the Committee regret to note the absence of any provision in the agreement with the BTM for taking action against them for such delays or for claiming the damages from them. The Committee view with concern that these delays have ultimately affected the training and the production programmes. The Committee would like that the reasons for delays should be investigated.

The Committee also take a serious view of the lack of advance planning and the preparation of specifications by P. & T./ITI before entering into agreement so that the specifications could be made available to the BTM for completing the contractual obligations in time. The Committee see no reason why in a project of this Magnitude which involves erection and commissioning of a sophisticated equipment, the progress of which depends on scheduling at different stages the Company should not have taken advantage of modern management techniques like "PERT" to review the programme, identify the delays and take timely remedial measures at different stages to achieve the targeted programme.

(1)	(2)	(3)
9	3.45 to 3.47	Apart from the financial losses, the Committee would like to point out that at a time when the country is seriously short of telephone equipment and the waiting list runs into several years to metropolitan towns, it is unfortunate that we should not have been able to manufacture equipment of the requisite quality at ITI upto the installed capacity. The Committee are greatly dissatisfied with the lack of urgency with which the various manufacturing problems encountered have been tackled in ITI and desire that the matter should be looked into at the highest level in order to take concerted measures to overcome these deficiencies and reach production as per the installed capacity. The Committee are greatly perturbed to note that as compared to the Fourth Plan target, the ITI would fall short by as much as 2.34 lakh lines including 70,000 lines of rural exchange. The Committee note that though 60,000 lines of P&T were equated by the Management to one lakh lines of Jorbagh pattern originally envisaged in the agreement with the collaborators, the optimum production could not be achieved by the Company even in 1970-71 due to certain deficiencies like short supply of machines, shortfall in foreign exchange and poor quality of indigenous supply of raw materials. The Committee regret to note that the short supply of machinery come to the notice of the Management only after two years of installation and running and when the factory could not achieve the quantum of production specified in the project report. The Committee find that:— ".....soon after the (present) Chairman and Managing Director too over charge

(1)	(2)	(3)
		in June, 1970, he had detailed discussion with the officers on the Audit Report and while going through the causes and the difficulties for attaining the rated capacity, it came light that the machine capacity was still not sufficient. They pointed out that they could not make the correct and full assessment of the machine capacity earlier as the various machine operating timings had not been received in full from B.T.M."
		The Committee regret to note that even now information pertaining to know-how and standard time data has not been received by ITI from BTM for a large number of items, components and assembly operations.
10	3.48	The Committee are surprised that though under the agreement with the collaborators, the BTM were responsible for such defects and deficiencies, the agreement did not even include a penalty clause providing for claim for liquidated damages for any failure to supply the machines in a specific time. The Secretary of the Ministry, during evidence, admitting this lacuna stated, "when the collaboration agreement was reached, this question of compensation was discussed and it was finally decided not to include any penalty clause in the agreement." The Committee are not happy at the way in which things connected with BTM agreement had been handled. The Committee would therefore like that the whole matter regarding the agreement with the BTM should be thoroughly investigated and the responsibility for not only entering into such a defective agreement but also the failure to take follow up action at different stages during the implementation of the agreement be fixed.

(1)	(2)	(3)
11	3.49 & 3.50	The Committee also strongly recommend that Government should learn the lesson from this experience and ensure that agreements with collaborators include suitable clauses providing for levy of penalties and recovery of liquidated damages in cases of delays or failure to fulfil the contractual obligations either in full or in part. The Committee would also like Government/ BPE to issue suitable guidelines in this regard to all Public Undertakings. The Committee were informed that with the addition of the machines which are now being received from BTM, the Company would have the capacity to manufacture all the items that were mentioned in the agreement. The Committee, however, regret to observe that no revised parameters according to the P. & T. pattern were fixed corresponding to those included in the agreement for judging the actual performance with the result that no useful comparison could be possible with the agreement and the terms thereof enforced. The Committee view with concern the failure of the Management in not having intimated the revised production pattern/programmes to BTM in time and included them in a supplementary agreement to the main contract so that the terms of the contract could have been enforced and responsibility for shortages at several stages pinpointed.
	3.51	The Committee also note that a term of the World Bank Consultants had made a number of suggestions for improving the production efficiency in the factory, procurement system, stock control of materials, closer coordination between P.&T. and ITI, creation of buffer stocks for strategic materials etc.. The Committee hope

(1)	(2)	(3)
		that these suggestions will be implemented and the production of the Company improved and efficiency enhanced.
7	3.55	The Committee regret to note that the decision to make use of the tool room facilities available for strowger type of equipment or crossbar production on the expectation that there would be tapering off of strowger production was not correct especially when the crossbar equipment was quite new to the Country and there was no experience in the use of this type of equipment. The Committee note that only when the Company was faced with critical situation of large number of breakage in tools during production that the Company thought of ordering a duplicate set of tools and establishing full tool-room facilities. The Committee also note that in the meantime the Company had to place orders for import of 4 tools from the very same collaborators *i.e.* BHM for a CIF value of Rs. 1.25 lakhs and another set of 13 tools from BTM and other companies. Had the duplicate set of tools been procured in time, the Company would not have suffered the loss in production. The Committee view with concern the lack of proper planning in the provision of tools, and tool-room facilities which has caused loss of production. The Committee also take a serious view of the failure on the part of the Management in not having assessed the demands of strowger type of equipment in time before a decision about tool-room facilities for crossbar production was taken. The Committee hope that with the establishment of a full-fledged tool room, ITI would be able to over come the difficulty of lack of tools required

(1)	(2)	(3)
		for the manufacture of crossbar type of equipment in future.
14	3.59	The Committee fail to understand how the I.T.I. management and the Government could ensure implementation of the agreement and that of the project as per schedule in the absence of any record being maintained to indicate even the actual dates of the receipt of know-how etc. The Committee are also surprised as to how the Management could state that the manufacturing know-how had been received in time, by and large in the absence of the record. The Committee emphasise the need for keeping a complete record of receipt of all types of know-how including production and engineering information *vis-a-vis* the scheduled dates to enable the Management and the Government to keep a close watch so that it can be ensured that the provisions of the agreement and the project are implemented as per schedule. The Committee have already commented on the defective agreement with BTM in not having included a penalty clause in the agreement.
15.	3.63. & 3.64	The Committee find that against the staff requirement of 15 officers and 1235 operative and indirect staff on achieving 100 per cent of efficiency envisaged in the Project Report for Production of 1000,000 lines, the Company has on 31-3-1972 a strength of 31 officers and 1401 operative and indirect staff whereas the production was only of the order of 80,000 lines. Although the Committee were informed that the present strength is not more than the strength assessed by the Industrial Engineering Department the Committee are inclined to feel that the staff is much in excess of the requirements especially when the production has not reached 100 per cent level. The Committee are concerned

(1)	(2)	(3)
		that the Company could not attain the expected level of efficiency in the Assembly and Manufacturing Divisions of the Crossbar Unit whereas the percentage of efficiency is only of the order of 60.87 and 50.72 in 1971-72. The Committee strongly recommend that Management|Government should go into the reasons responsible for low achievement of the required level of efficiency and should take suitable remedial measures to improve the efficiency and attain maximum production. The Committee also recommend that employment of staff should be strictly regulated to the needs of production and production pattern to avoid over-staffing at any stage.
		The Committee have been repeatedly coming across instances where officers and other staff grossly in excess of requirements as envisaged in the detailed project report etc., are employed. What distresses the Committee most is that even when the requisite level of production or even a substantial portion thereof has not been reached, the officers and staff employed usually is far in excess of what would be even required for achieving 100 per cent level of production.
		This is indicative of the luxity with which the appointments of staff are made in the beginning which militates against disciplined hard work and thereby vitiate the atmosphere in Public Undertakings for achieving optimum production results. The Committee would like Government at the Highest level to analyse in detail the reasons for recurrence of such lapses and lay down guidelines to obviate their recurrence. The Committee would like Government to hold the Chief Executives squarely responsible for any such lapse in future so that production discipline is maintained all along the line.

(1)	(2)	(3)
16.	3.69.	The Committee note that because of the pricing formula adopted by the Company for calculating the selling price on the basis of a lower labour efficiency of 35 per cent during 1965-66 to 1967-68 and 50 per cent in 1968-69, the Company has fixed the selling price at Rs. 1243 per line during 1965-66 to 1967-68 and at Rs. 864.20 per line during 1968-69 as against the estimated evaluated rates of Rs. 883.30 and Rs. 651.00 during the corresponding periods. Consequently, the Company has recovered from the P. & T., Rs. 312.03 lakhs more than what it should for the supplies made to it during the period from 1965-66 to 1968-69 The Committee were informed that from 1969-70, production of cross-bar exchanges was executed in the form of equipments and charged as such. Even so, the average cost per line has been worked out as Rs. 1603 during 1969-70 and Rs. 2327 during 1970-71 which are again very much higher than the estimated cost as evaluated. The Committee are inclined to feel that if in spite of low efficiency and low utilisation of capacity, the company is making profits, it is mainly because of the fixation of selling prices at much higher rates than what they should be. Under the procedure now followed by the Company and recovery of additional costs from its main consumers P. & T., and other Government Departments the figures of profit shown by the Company are not true index of its efficiency. The Committee regret to observe that while this pricing procedure has enabled the Company to present a better financial picture, it has really proved to be an extra burden on the exchequer. The Committee would, therefore, stress that merely judging from these higher profits the Company should not develop a sense of complacency and take undue advantage of their

(1)	(2)	(3)
		monopolistic position. The Committee recommend that aim of the Company should be to manufacture their products at most economic costs by increasing their labour efficiency and maximising production and thereby supply the vital equipments at reasonable rates.
17.	4.4. & 4.5	The Committee find that the percentage of total hours lost to total booked hours was 2.6 per cent in 1968-69, 2.15 per cent in 1968-70 which decreased to 1.99 per cent in 1970-71 and to 1.12 per cent in 1971-72. Although the Management considered this percentage as not unduly high, the Committee note that the loss has been mostly on account of lack of raw materials. As mentioned in the Chapter regarding "Material Management", the Secretary of the Ministry of Communications conceded during evidence that inventory in ITI was very high. The Committee are surprised that while on the one hand ITI are carrying excessive inventories, on the other labour remains idle for want of materials. The Committee, however, informed that inspite of the fact that ITI were engaged in production of one of the most important infrastructure items of equipment in this country, they are not listed by Government as a priority industry with the result that the production of the Company suffers. The Committee feel that ITI being the major industry meeting the increasing demands of telephones and transmission equipments in the country should not be made to suffer on account of shortage of basic items of raw materials like steel sections and steel sheets. The Committee, therefore, recommend that the Government should make a correct assessment of the requirements of ITI for steel sections and steel sheets and treat them on high priority basis so that the Company has not to suffer on account of shortage or lack of essential

(1)	(2)	(3)
		raw materials and consequently the labour remaining idle. The Committee would like Management to review the matter in the light of the study made by the Administrative Staff College, Hyderabad and the suggestions made by the study team of the International Bank of reconstruction and Development, Washington and evolve a suitable system of store purchase and control so that production in ITI does not suffer at any time for lack of materials.
18.	5.5.	The Committee are unable to appreciate why prior to July, 1970, out of 3046 machines spread over 35 shops, machine utilisation cards were maintained only in respect of 126 machines in the Auto Shop of MAX Division. The Committee note that since July, 1970, records of machine utilisation are being kept in respect of machines which cost Rs. 20,000 in value and more. The Committee would like that the record of machine utilisation should be scrutinised in detail in order to identify the reasons for less than full utilisation and take effective measures like arranging timely supply of spares and materials, servicing of machines and maintenance and standardisation of product mix to get the best results.
19.	5.6.	As regards the machines for which machine-utilisation cards are not being kept at present, the Committee would suggest that an overall review should be made from time to time say—once a year—to make sure that these machines are really needed and to derive necessary guidelines to see that investment is not made in machines which would not be put to use.
20.	5.7.	One of the reasons given for decrease in percentage of utilisation of machinery in 1971-72 as:

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		compared to 1967-68 is that percentage of absenteeism has risen to 12.3 per cent in 1971-72 from 8.35 per cent in 1967-68. The Committee are not able to appreciate the reply of the undertaking that they have not worked out the percentage of absenteeism in the first and second shifts though they have a feeling that the percentage of absenteeism in the second shift is on the high side. The Committee would like the undertaking to analyse the matter in detail and take effective action to see that the percentage of absenteeism is reduced. The Committee need hardly stress that effective action should be taken to see that production and utilisation of machines do not suffer on this account.
21.	6.5.	The Committee note that the overall actual sales fell short of both the budgeted and revised budgeted sales during 1966-67 to 1968-69 but the situation, however, improved from 1969-70 to 1971-72. The Committee, however, note that the Company has not been fulfilling its targets for sales to P. & T., during the years 1966-67 to 1970-71 except for a small excess over the revised target in 1968-69. As the country depend largely on ITI for telephone and transmission equipment, the Undertaking should leave no stone unturned to meet the requirements of the P. & T. The Committee find from the approach paper to the Fifth Plan of ITI that the estimated demand for telephone instruments during the 5th Plan period is 24 lakh instruments and the backlog during the 4th Plan is estimated at 5 lakh instruments. Similarly, the P. & T., have planned for installation of microwave equipment over 15,000 route Kms., coaxial system on 10,000 route Kms. and long distance transmission equipment over a number of open wirelines.

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		The Committee recommend that the Company should in consultation with the P. & T., fix realistic targets of sales taking into account the demands of P. & T., and ensure that such targets are actually achieved and the demands of public met to the maximum extent by improving efficiency and stepping up production.
22	6.8	The Committee note that there has been shortfall in the exports by the Company as compared to the targets fixed during the years 1967-68 to 1969-70. The Committee were informed that export targets are fixed with due regard to the need for meeting the home demands particularly of P&T. The Committee also note that the value of the products exported by the Company has come down from Rs. 89.71 lakhs in 1969-70 to Rs. 32.08 lakhs in 1971-72. The Committee were informed that main reasons responsible for decrease in export is declining demand for strowger type equipment and open wire carrier equipment and unless ITI's cross-bar equipment and Microwave are available for exports, ITI will not be able to reverse the trend. The Committee were also informed about the difficulties in procurement of special raw materials required for export orders. The Committee, therefore, feel that the targets for exports have not been fixed on a realistic basis taking into account all the relevant factors like declining demand of its products outside, production possibilities etc. The Committee, therefore, recommend that before fixing the targets for exports, a proper demand survey of the export market should be undertaken and targets fixed consistent with the home demands for such products.
23	6.9	The Committee also recommend that Government should provide ITI special facilities for

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		procurement of the requisite type of raw materials required for export orders to enable the Company to fulfil its commitments of exports.
24	6.16	The Committee regret to note that the total value of P&T orders outstanding as on 31-3-1969 was 18.61 crores and year-wise break-up of these orders was not maintained till October, 1969 for one reason or other and control over execution of the orders was being exercised only through periodical meetings between P&T and ITI. The Commitee also note that the total value of orders outstanding as at the end of 31st March, 1972 was over Rs. 50 crores out of which the orders of P&T alone amounted to Rs. 35.58 crores and the value of outstanding orders has been increasing from 1969-70. The Committee were informed that in respect of non-P&T orders though a record of orders with values was maintained, it was not complete with full particulars. The Committee are unhappy to find that though a computer was installed by the Company in the year 1966, they did not assign the priority to get the data regarding the orders received and those outstanding computerised. The Committee are unable to understand how in the absence of vital information the management is able to exercise any effective control over the execution of orders. The Committee recommend that the position should be carefully investigated and responsibility for failure to maintain proper record of the orders received and executed before October, 1969 should be fixed. The Committee also recommend that the ITI should exercise necessary control to see that the orders are accompanied by all the required specifications and other details in order to avoid delay later in execution.

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		The Committee were informed that long deliveries were due to lack of capacity and steps for decentralisation have also been taken from June, 1972. The Committee were also informed that the normal cycle-time for a major order to wait ranges from 18 to 24 months and in the case of minor orders for standard equipment, the waiting period ranges from 6 to 18 months. The Committee need hardly stress that ITI should endeavour to accelerate the pace of production by improving its efficiency and proper advance planning procurement of materials and thus reduce the waiting time for the orders to the minimum. The Committee hope that with the coming up of the new units of the ITI and with improved efficiency and forward planning for materials, it should not be difficult for the ITI to clear up the backlog of the orders and ensure timely execution of the new orders.
25	7.5	The Committee note that because the production in the cross-bar Division is not yet stabilised technical estimates are obtained for evaluation of the work in progress in respect of intermediate production in certain specified departments. The Committee feel that working out standard costs based on technical estimates only for intermediate production in certain specified departments will not ensure a scientific and realistic costing for evaluation of work in progress. The Committee, therefore, recommend that the correct standard costing practice should be adopted and the standard costs for the production of crossbar division fixed on a scientific basis. The Committee also recommend that these standard costs should be reviewed periodically and variations between standard costs and actuals ana-

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		lysed to take remedial measures to reduce the cost of production and effect adjustments as necessary.
26	7.6	The Committee note that standard costs are fixed with reference to layants/drawings for materials and engineering estimates for labour. The Committee also note that the number of layouts has increased from 59,000 in 1969-70 to 77,000 in 1971-72. The Committee were informed that unless there is a change in process or design tool or work simplification or material substitution no revision of lay-outs is undertaken. The Committee feel that in view of the large number of layouts and the frequent changes in product mix/designs especially in Transmission Division, there should be a systematic time-controlled plan of review of layouts with a view to fixing the standard costs as accurately as possible and improve upon the performance.
27	7.7	The Committee note that the Company has been following a standard costing system based on labour efficiency of 100 per cent in MAX and 50 to 80 per cent in Transmission. The Committee were informed that the standard costs were varied from year to year consistent with the changes in labour-efficiency, although such variation were done with the concurrence of P&T. The Committee also note that actual percentage of labour efficiency in shops was in excess of the percentage adopted for standard costs in 6 shops of MAX and 2 of Transmission and less than the adopted percentage in 3 shops of MAX. The Committee would like the undertaking to analyse in detail the factors inhibiting labour efficiency and take remedial measures to achieve 100 per cent efficiency.

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28	7.8	The Committee were also informed that the costing system has been designed to conform to the multi-stage production pattern in vogue with an in built cost control system. The Committee, however, note that the system does not provide for determination of product-wise actual costs. While the Company has provision for cost-control/comparison at every stage of production of components against individual shop orders, the Committee do not see any reason why the data available cannot be utilised by the Company in working out the product-wise actual cost so as to provide a suitable basis for comparison with the standard cost. Such product-wise analysis of actual cost will be helpful in the fixation of prices for various products on a scientific basis. The Committee therefore, urge that the compilation of product-wise actual cost be undertaken early.
29	7.9	The Committee also recommend that the standard costs should be reviewed and re-fixed taking into account the present trends in labour efficiency and material costs so that variations in costs may be kept to the minimum.
30	7.13	The Committee note that in the process of compilation of costs, actual costs are not compiled product-wise but are compiled in respect of shop orders only. The Committee further find that the so-called actual costs of shop orders cannot be considered as "actual" since these are based on standard rates for labour, materials, and overheads and variation beyond 10 per cent in cost of materials, are only taken into account. When shop orders on completion are transferred to stores, these are again at standard rates and variations between these costs and the value "actually" determined at the shop level are taken to cost variation adjustment account.

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		The Committee were informed that the "actual" costs so compiled and standard costs are compared with reference to the total production on a quarterly basis. The Committee feel that the present system does not provide an effective method of comparison of actuals with standard costs, since break-up of cost of final product into labour, materials and overheads is not available for cost control and the standard rates of materials are not revised with reference to variation in cost of materials. Besides the actual costs compiled are themselves defective and do not represent the actual costs in the true sense of term. Since the practice adopted does not provide for an effective control on the cost of the products and affects the profitability of the undertaking, the Committee strongly recommend that the undertaking should put the costing system on sound footing and consider the introduction of a system of departmental budgeting and expeditious closing of shop orders. The Committee also recommend that the company should take steps to review the standard rates by a careful analysis of the figures in the cost variation adjustment accounts, and revise the standard rates suitably. The Committee also recommend that the undertaking should study the costing system adopted by ATE of U.K.|BTM who are the collaborators for the manufacture of the telecommunication equipments, with a view to evolve a better and more effective system of costing and management control.
31	7.20	The Committee note that in respect of MAX and Transmission Divisions standard Costs for Stabilised items were higher than the costs compiled by the Company by 177.31 lakhs during 1966-67 to 1968-69 while the position was the re-

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verse during 1969-70 to 1971-72 when the costs compiled by Company were higher than the standards by 73.01 lakhs. The Committee note that under the present system of costing, cost variances only beyond 10 per cent in respect of orders value over Rs. 50.000, were analysed, and even such an analysis indicated a number of defects in the system. The Committee were informed that variations were primarily due to shop orders remaining current for larger periods than one year and the long time factor in the closure of shop orders. The Committee were informed that a revised procedure whereby planning and scheduling is on a monthly basis broken down further into weekly scheduling is being gradually introduced and this will eliminate cost variation as have been occurring hitherto because of the long-time taken in the closure of shop orders.

The Committee note that master shop orders constituted the major portion of the overall cost variance in respect of completed orders and these were not susceptible of analysis under the present system. The Committee were informed that "under the revised production planning and shop scheduling procedure introduced in the MAX and Transmission Divisions, master shop order system is being applied for production of homogeneous codes only and as measures of control the cycle time of master orders has been limited to a shorter period *viz.* about 6 months."

The Committee note that during 1966-67 to 1971-72 there was an overall under recovery of overheads to the extent of 331.73 lakhs. Under recovery on account of volume variance Rs. 372.21 lakhs, was offset by net saving of Rs. 40.48 lakhs on account of expenditure variance. The Committee also note that under recovery of overheads under volume variance was also to under utilisation of capacity and also on account of non-

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		employment of direct labour consequent on diversion of production work to ancillary industries and farming out or orders. The Committee were informed that diversion to ancillary units was done with a view to increase the overall production in the factory and such diversion did not affect the utilisation of existing machnery. The Committee are surprised to find that, in spite of this, there is shortfall in production and the utilisation of capacity is only of the order of 60 to 70 per cent resulting in under-recovery. The Committee urge that the reasons for under utilisation should be investigated by a team of experts so that production performance is improved by carefully deploying the labour and putting the machines to optimum utilisation. The Committee would strongly urge that the system of costing and procedure for cost analysis should be streamlined and put on a scientific footing so that the variations in cost could be analysed at each stage in a comprehensive manner on all shop orders and reasons for variation pinpointed and remedial measures taken to overcome the defects. The Committee hope that the revised procedure of planning and scheduling being introduced, will enable closing of shop orders in shorter intervals so that there is more effective cost control at shop levels.
32	7.25	The Committee note that product-wise actual costs are not compiled by the Company to enable comparison of selling prices with such actual costs. From the comparison of the selling prices with the stand and costs, the Committee find that the range of variation in the selling prices of the products of both MAX and Transmission Divisions has been wide. The range of variation in the standard costs also has been equally so. The Committee also note that there has been increase in selling prices and standard costs of several products of MAX and Transmis-

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		sion Divisions including the Telephones during 1969-70 to 1971-72. The Committee note that in the absence of break-up of standard costs into its constituents *viz.* labour, materials and overheads the Management is not in a position to indicate specific reason for variation in stanlard costs from year to year. The Committee need hardly stress that it is imparative to streamline the procedure of costing and that the Company should compile product-wise actual costs and also analyse the variations between the standard costs and the actuals and take suitable remedial action. The Committee regret to observe that the basic commercial principle of finding out product-wise actual costs for comparison with the selling prices to find out the financial viability of the undertaking has not been followed. The Committee hope that this position would be set right without any further delay.
23	7.31	The Committee note that the number of pending shop orders has increased from 20,905 on 31-3-1969 to 24,367 on 31-3-1972. The age of these orders ranges from one to six years. Although all shop orders are required to be closed within a period of six months, out of the pending orders on 31-3-1972, as many as 2,347 orders are more that one year old, 531 orders are between two and three years, 239 orders between two and three years and 2 orders each between four and five and six years. The Committee also note that out of the orders outstanding on 31st March, 1972, 531 shop orders valued at 194.98 lakhs have a credit balance of Rs. 5.000 and above and these include 223 physically completed orders. The Committee note that besides, these there are as many as 3,375 physically completed orders with a net credit balance of 52.43 lakhs. The Committee also note that the value

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		of work-in-progress is arrived at on the basis of cost cards for pending shop orders and does not reflect the value of the works based on the physical stage of completion. The Committee find that the Management informed the Board of Directors in August, 1971 that the revised production planning/shop schedule scheme introduced in November, 1969 to acheive a better and more effective cost control did not yield the anticipated results mainly because of deficiencies in proper documentation at the shop level and difficulties in linking the debits/credits to the individual schedules. The Committee were informed that the problems arising from the introduction of the revised production planning/shop schedule scheme are under examination with a view to taking necessary remedial action and if the difficulties/deficiencies encountered could be removed, the scheme would prove a success. The Committee strongly urge that the company should take expeditious action to identify the deficiencies and defects and the reasons therefore and take immediate remedial action to remove them so that a correct picture of the value of work in progress is available. The Committee were also informed that efforts were being made to clear the old items by constant review. The Committee need hardly stress that the Company should adopt more business like practices to ensure timely excution of shop orders and strict adherance to delivery schedules.
24	8.8	The Committee find that about 80 per cent of the products manufactured by ITI are supplied to Posts and Telegraphs Department under the pricing terms incorporated in an agreement between the Company and P&T. The Committee are however, surprised to note that since inception no proper and fixed pricing policy has been

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		evolved by the Government with regard to the sale of both the stabilised and non-stabilised items for production. The *ad hoc* arrangements had to be revised on several occasions as they were found not working to the satisfaction of either the ITI or the P&T. The Committee note that the pricing policy has been changed with effect from April, 1972, and new agreement has been entered into between P&T and ITI. Even the present agreement provides for adjustments of the payments/recoveries for cost variations. The excess or deficit in the estimates are to be made good by the P&T or refunded to P&T as the case may be.
		The Committee note that conflicting statements have been made by the Management and the Ministry as to how are the cost variation under the standard costing system would affect the profitability of the Company. The Committee also note that in the new agreement it has been presumed that Company would run at 90 per cent efficiency. As the efficiency depends upon many factors like labour-management relations, adequate supply of material, proper training of the workers etc., the profitability of the Company is likely to be affected by all the variable factors resumed in the new agreement. Since the ITI have the benefit of latest machinery and equipment in their production units and advantage of a large captive market, the Committee need hardly stress that the undertaking should improve its efficiency, increase output and effect economics so as to bring down the cost of manufacture of their products to even less than the international prices so that the products of the ITI can benefit even the Common man.
35	8.9	The Committee also note that in the cases of non-stabilised items the present policy is to re-

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		fund credit variation before expiry of the following financial year after determining the amount of cost variations on the finalisation of the accounts for the earlier year. To ITI are proposing to request P&T to waive the claim for interest on cost variations. The Committee would like to be informed of the development. The Committee would, however stress the need for setting the credit variations soon after the close of the financial year so that payment of interest charges to P&T can be avoided.
36	9.6 & 9.7	The Committee note that the stock of raw materials including installation and production stores as on 31-3-1972 was equivalent to 16 months requirements. Although the inventory level has been brought down from 19 months' in 1967-68 to 16 months' in 1971-72, the Committee feel that the inventory is still very high, compared to the norm of 6 months' requirements recommended by the Committee on Public Undertakings in their 40th Report (3rd Lok Sabha) on Material Management. Even according to the Management, the inventory holdings considered reasonable in terms of production requirements were 6 months in the case of indigenous items and 9 months in the case of imported items. The Committee also note that the inventory of raw materials has risen from Rs. 1161.37 lakhs in 1970-71 to Rs. 1531.71 lakhs in 1971-72 and the increase has been mainly due to purchased items. The Committee note that the system of material management in the Company has been got examined by the Administrative Staff College, Hyderabad who while giving their report and recommendations had observed that "*ad hoc* decisions such as annual indenting, decentralising the purchase function etc. without adequate pre-planning show trends in dislocation of functions crises and inventory piles." The Committee feel that the Company should have by this time implemented the recommendations contained in the report of the Administra-

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		tive Staff College and taken appropriate action to streamline the purchase procedure which at present is stated to be causing considerable problems and ensure that the level of inventory is brought down to the norms considered reasonable consistent with exigency of production so as to avoid unnecessary accumulation of stores resulting in locking up of capital.
:37	9.8	The Committee also recommend that ITI should als take advantage of the computer for working out an effective system of inventory control.
:38	9.15 & 9.16	The Committee note that the value of dormant and slow-moving stores increased from Rs. 234.4 lakhs at the end of 1967-68 to Rs. 286.5 lakhs at the end of 1968-69. Though it came down to Rs. 166.55 lakhs at the end of 1970-71, it again increased to Rs. 219.32 lakhs at the end of 1971-72 representing 16.81 per cent of the inventory. The Committee also note that the value of dormant stores alone ranged from 12.3 per cent of the inventory in 1967-68 to 6.65 per cent in 1971-72. The bulk of dormant and slow-moving stores was accounted for by the raw matetrials, MAX and Transmission Stores which have shown an increase of Rs. 48 lakhs from 1967-68 to 1968-69 and again Rs. 46 lakhs from 1970-71 to 1971-72.
		The Committee were informed that items had become dormant and slow-moving due to frequent changes in methods, processes and designs which had taken place in the factory especially in Transmission eqiupment. The Committee also note that against the accumulations of dormant items from the inception of the factory stores of the value of Rs. 37.42 lakhs had to be written off. The Committee are concerned to

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		find that while on the one hand shortfalls in production are attributed to the shortages of raw materials and Transmission Stores, and machinery and labour remain idle on this account, on the other, there are accumulation of dormant and slow-moving equipment which are ultimately written off. The Committee recommend that purchase of materials especially Transmission Stores and Transmission Equipments which are susceptible to frequent changes in design, methods processes, etc. should be regulated after a careful assessment of the requirements to avoid accumulation of stores over long periods and ultimately becoming obsolete or written off. They have been informed that a Committee had been appointed to review the stores declared dormant/slow-moving. The Comittee hope that a careful analysis of the dormant and slow-moving stores will be made so as to segregate items which are really surplus to requirements and action taken to dispose them of in the best interest of the Public Undertaking.
39	9.20 & 9.21	The Committee note that the Company has achieved import substitution of raw materials and components to the extent of Rs. 348.58 lakhs from 1966-67 to 1971-72. As conceded by the management themselves, "while the pace of import substitution has been fairly satisfactory, there is scope for improvement." The Committee find that the Company is still importing 296 lakhs worth of materials annually. One of the more important materials imported in large quantities byITI is the ferrite core used for Transmission equipment, the annual

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requirement of which is of the order of 10 tons valued at approximately Rs. 55 lakhs. In this connection, the Estimates Committee in their 103rd Report, (Third Lok Sabha 1965-66) had observed that, "....though two firms were licensed in August 1963, and July, 1964 to manufacture soft ferrites with the process developed by National Physical Laboratory, they have yet to go into full production, thus necessitating import of soft ferrites in addition to their production departmentally by the National Physical Laboratory. The Committee recommend that National Research Development Corporation should ensure that the parties, who are granted licences for commercial exploitation of the CSIR processes actually adhere to the stipulated schedules for commercial production and that the production targets are adhered to by them in actual practice.

The Committee should think that since soft ferrites can be manufactured with know-how developed by National Physical Laboratory there should be no occasion for allowing foreign collaboration for manufacture of this variety of soft ferrites. Effective measures should also be taken to ensure that production of soft ferrites is commenced immediately by the firms concerned, with the National Physical Laboratory process, in order to meet all internal requirements so that the import of soft ferrites and departmental production by National Physical Laboratory could be stopped as early as possible.

The Government in their reply to this recommendation stated that the licences issued to these two firms became effective from 1st April 1964 and the firms had gone into production from 1st October, 1965 and 15th September, 1965 respectively. One of these firms had also asked for

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		expansion of its units and a letter of approval had been issued. In addition, licences to three more firms had also been issued. From the above it would appear that 5 firms are engaged in the manufacture of ferrites based on the know-how developed by the National Physical Laboratory. The Committee see no reason why in spite of the indigenous manufacturers in the field, this basic raw material should be continued to be imported at the expense of precious foreign exchange of Rs. 55 lakhs per annum. The Committee strongly urge that the Company should tap the indigenous resources in the field and meet their requirements instead of importing them.
40	9.22	The Committee also note that another field of indigenous manufacture where progress has been very slow compared to that in advance countries is in the field of integrated circuits. Integrated circuits of various types are basic building blocks in digital communications as in other associate fields like computer application, desk calculators, electronic exchanges etc. The Committee need hardly stress that a well considered crash programme of Research and Development for establishing indigenous manufacture in this promising field should be implemented so that the ITI and other concerned public undertakings can exploit this latest technology in their production programme.
41	10.3	The Committee note that as on 31-3-1972 a sum of Rs. 280.95 lakhs was outstanding towards loans from Government of India and ISEC, New York. The Committee also note that the amount outstanding against deferred credit was Rs. 227.73 lakhs on that date. The working results of the Company are indicative of its healthy financial position. In

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		view of this the Committee hope that it should be possible for the Company to wipe off its outstanding loans so that payment of interest charges thereon is avoided.
42	10.9	The Committee regret to note that on the basis of the pricing policy followed by the Company in respect of stabilised items, debits to the extent of Rs. 34 lakhs and Rs. 26 lakhs during 1969-70 and 1970-71, respectively were retained by the Company resulting in reduction of profits. The Committee, therefore, suggest that the Management should take effective steps to secure economies in cost so that these do not over run the prices to be paid by the P&T Deptt.
43	10.10	The Committee also regret to note that there had been a declining trend in the profits of the Company during 1968-69 and 1969-70 although the profit showed a slight increase in 1970-71. The Committee were informed that manufacturing and trading accounts were prepared for all the products together and not separately for its main divisions—MAX, Transmission and Cross-bar, with the result that financial results of each of the divisions could not be accurately assessed. The Committee are surprised that there should have been such a lacuna in the maintenance of accounts so far. The Committee feel that in the interest of identifying the deficiencies in the working of the different divisions of the project, separate manufacturing and trading accounts should be prepared for each of the main divisions to ensure rectification of such deficiencies in time and to achieve greater efficiency and economy in operation.
44	10.11	The Committee note that the question of preparation of the proforma accounts more frequently (now being prepared annually) is

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		under consideration of the Management. The Committee hope that a system of preparing the proforma accounts more frequently will be introduced soon so that the division-wise working results are made known to the Management from time to time.
45	10.18	The Committee note that against the turnover of Rs. 2594.58 lakhs the total book debts of the Company was Rs. 489.69 lakhs (18.9 per cent) and out of the latter, Rs 75.68 lakhs relate to debts outstanding for more than one year. The Committee regret to note that the bulk of the sales for which payments were outstanding relate to supplies made to Government. The Committee expect that payments outstanding with Government Departments should have been followed up at the highest level and vigorous steps should be taken for their realisation. The Committee suggest that to have a deterrent effect on avoidable delays the feasibility of charging interests on delayed payments may be examined. The Committee also suggest that the procedure for billing and settlement of formalities should be strictly followed to ensure that in no circumstances payments are allowed to be outstanding for more than 2 months.
46	11.6	While the Committee are happy to note that the Second Factory for manufacture of Long Distance Transmission equipment was started in Naini without any outside collaboration, they deprecate the delay of 2 years in even applying for an industrial licence for the project sanctioned in 1968. The Committee find that Government took another one year for granting the licence. The Committee are constrained to observe that such delays defeat the very object of starting a second transmission factory to augment their production.

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		The Committee note that the estimates originally sanctioned in 1968 for Rs. 248.60 lakhs have since been revised and the revised estimates for Rs. 340.53 lakhs are to be put up to Government for approval. The Committee expect that Government would critically go into the reasons for the excesses over the original estimates and take prior approval of Parliament in case of substantial revision. The Committee would like in this connection to draw attention of Government/ITI to para 5.18 of the Sixty-sixth Report of the Committee on Public Undertakings (Fourth Lok Sabha).

MGIPND—LS II—391 LS—12-7-73—1425.